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THE  
VETERINARIAN,

OR,

MONTHLY JOURNAL OF VETERINARY SCIENCE,  
FOR 1837.

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VOL. X.—VOL. V. NEW SERIES.

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EDITED BY

W. YOUATT,

Late Lecturer on Veterinary Medicine at University College; Veterinary Surgeon, to the Zoological  
Society of London, and the Society for the Suppression of Cruelty to Animals;

ASSISTED BY

PROFESSOR DICK, AND MESSRS. KARKEEK AND PERCIVALL.

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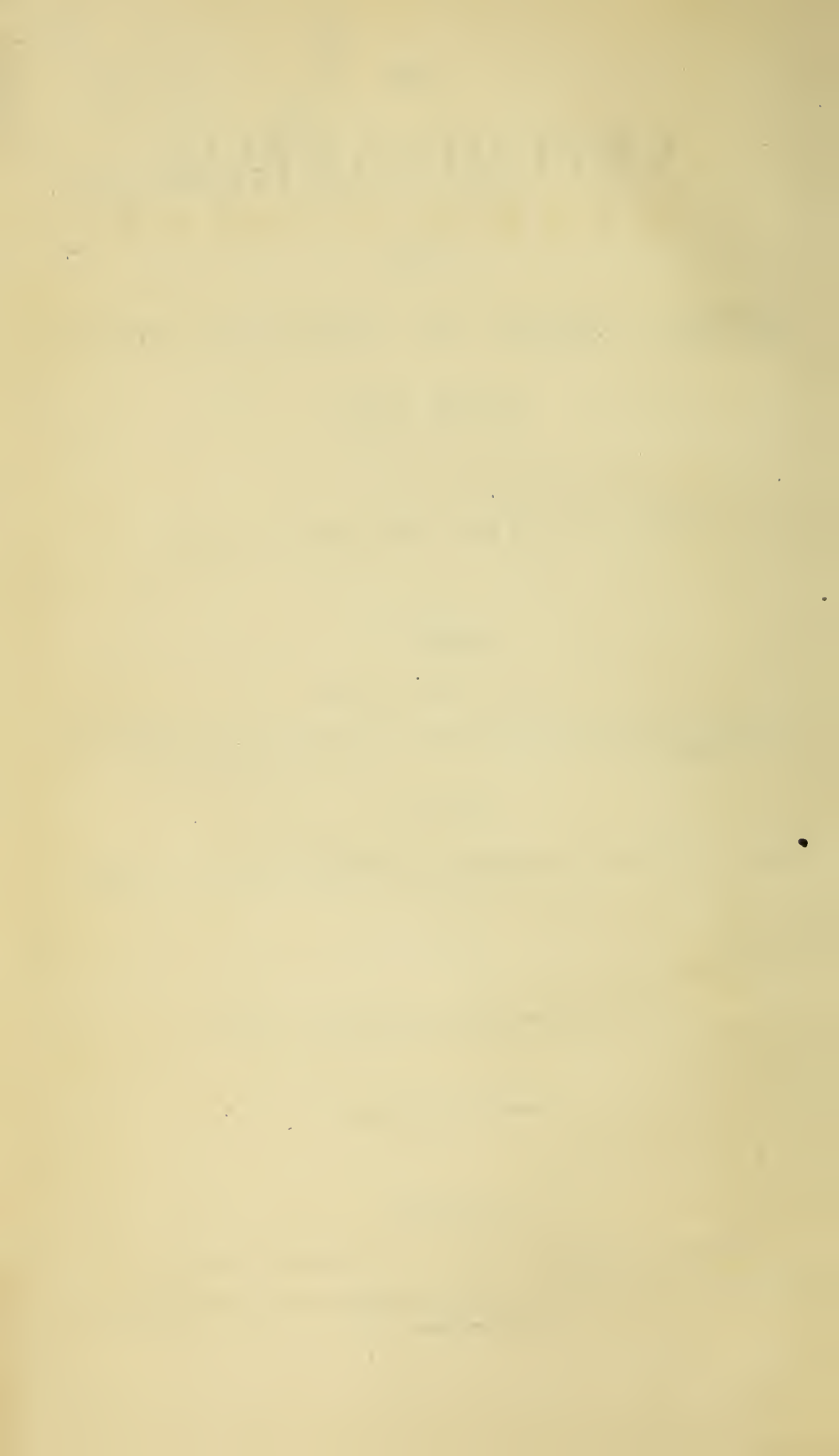
*Ars Veterinaria post medicinam secunda est.—Vegetius.*

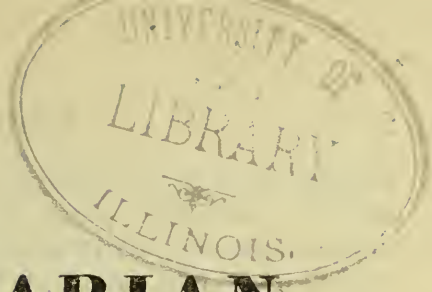
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THE  
**VETERINARIAN.**

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RABIES IN A PONY.

*By Mr. MONEYMENT, of Norwich.*

HAVING at various times received both amusement and information from perusing your valuable Journal, and being one of those who wish to act on the *quid pro quo* principle, I am induced to contribute my mite for the amusement and information of others whose experience may not have allowed them to witness a case like the one I am about to describe ; such cases being, fortunately, of rare occurrence.

On Thursday the 10th of October, about ten o'clock in the morning, I was requested to look at a two years' old colt, of a pony description, belonging to a baker in this city. Before I saw it, I asked him if he knew what was the matter with it ? He said it was taken ill yesterday, in the afternoon, when it first attracted attention by refusing its food, throwing itself down and rising up again. From such a description I concluded it was colic ; but as soon as I came out of the stable, where I had been engaged with another patient, into the yard, and saw the pony, and observed his wild and anxious countenance and his excessive nervous irritability, I was convinced that something uncommon was amiss.

When I approached him, he instantly endeavoured to bite me, the baker hastily calling out, " Take care he don't bite you, sir ; for he bit *me* in the arm yesterday." As a proof that my employer in this instance was not much acquainted with horses or horse-flesh, or the respectability and gentlemanly conduct of some of those who are in the habit of dealing in that commodity, when I asked him how long he had owned the pony in question, he said, " I bought him about ten months since, on the Hill (Norwich Market), of a man who warranted him four years old ; but he turned out to be little more than one ; for when I came to observe his mouth, I saw he had not shed a single tooth." I then asked him if the pony had ever been bitten by a dog ? He said, " Yes : " I inquired under what circumstances. He then

related the tale: "About a month ago I had a dog on trial, which I was about purchasing for the purpose of travelling with my cart when I carry out my bread (I suppose a sort of canine guardian to the staff of life). I had him tied to the axletree, and he bit the pony's hind legs; in consequence of which, I untied him from the axletree, and tied him to the jack of the cart behind, in doing which he bit me." I asked "Where?" he answered, "Here;" shewing me his hand, and the cicatrix left by the wound inflicted by the dog's teeth, between the metacarpal of the fore finger and thumb. I asked him what became of the dog: he said, "He was dead when I got home; whether I tied him short enough to hang him, or whether he died of himself, I don't know."

I could not help feeling for the poor fellow, and shuddering at his situation. I first examined my patient's pulse, which was rather full, but not more in frequency than from 50 to 55 beats in a minute. With considerable difficulty I succeeded in bleeding him, to the extent of five quarts, and ordered a dose of opening medicine to be administered\*; after which I secured him in an open stable, by himself, in order to prevent him from doing mischief to any other horse, or any other person.

The symptoms of the malady rapidly increased, by biting every thing within his reach, even different parts of his own body; knocking his head against the manger; throwing himself down; striking out his legs, and suddenly rising up again; frequent and profuse perspirations, with very accelerated and difficult breathing during the paroxysms; at intervals comparatively quiet.

These were the principal and prevailing symptoms during the time he remained with me, which was about nine hours; for about seven o'clock (watering and feeding time) my servant went into the stable to offer him some chilled water. He found him tolerably quiet; and after inducing him to come nearly to the end of the halter by which he was confined, in order to reach the pail placed on his knee, the pony greedily swallowed four or five

\* I confess that I did this with considerable reluctance; but I was urged to try some means of relief. I very particularly cautioned my groom to examine his hands carefully, and to assure himself that there was no wound or abrasion, and moreover to use a glove. It came out on the following day that he had an abrasion on his hand. A medical friend of mine immediately excised the part, so that there can be no danger with regard to him. As to the baker, I discharged towards him what I considered to be my professional duty, without alarming him too much. I asked him who was his medical man; and requested that he would acquaint him with the circumstance. He did so; but was told, that if any thing could have been done, it was then too late; so that he was left to take his chance.—G. M.

gulps of water ; then, instantaneously tossing up his head, he sprung at the man holding the pail, and came with such violence to the end of the halter, that the concussion threw him over backwards. This brought on another paroxysm that lasted about twenty minutes, when he died, apparently in the most excruciating agony.

Thus terminated a scene that beggared all description ; a scene of the greatest mental alienation and bodily agony I ever before witnessed in any animal during twenty years' practice.

Treatment in a case like this is out of the question. Providing it was practicable to administer medicine, my faith is not sufficient to induce me to believe that we are possessed of any drug that would have the slightest beneficial effect on such a disease. I will, therefore, proceed to describe the appearances at the post-mortem examination :—On opening the abdomen, the bowels and kidneys appeared healthy ; the liver was a good deal inflamed, and apparently approaching to a state of dissolution, for every part of it might be easily separated with the fingers. On opening the stomach, a small portion of brownish coloured fluid, and a little quantity of long unmasticated hay and straw, swallowed during the paroxysms of nervous excitement, presented themselves : the villous coat also had an inflamed surface, resembling the fluid in colour ; but inflammation was more distinctly marked on the external than the internal coat. On the whole, there was not so much disease in the stomach and alimentary canal as I expected to find. There was considerable congestion in the lungs ; but the strongest marks of inflammation were to be seen about the heart itself, particularly the internal parts, both auricles and ventricles, and internal coats of the larger vessels, viz. the pulmonary artery and aorta, and vessels given off immediately from the principal trunks ; as if the blood itself was so contaminated with the poison as to irritate and produce disease in the vessels in which it circulated. The brain did not exhibit any strong marks of disease : the vessels on the left side of the medulla oblongata were turgid and distended : at the base of the brain itself there was a slight effusion of bloody serum ; the ventricles were healthy, and the brain, altogether, did not exhibit so much disease as might have been expected from the extreme nervous irritability and excitement that existed during the progress of the disease. The membrane lining the epiglottis and internal part of the larynx exhibited a vast deal of purple-coloured inflammation, with spots of ecchymosis : the internal part of the pharynx exhibited a similar appearance ; in fact, the whole of the upper part of the mouth and fauces were more or less inflamed. These were the principal

morbid appearances after death ; and if you think them worth recording in *THE VETERINARIAN*, I beg you will do so ; and I should be happy to hear your opinion on the identity of the disease with rabies.

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[Even if we had not the previous history of the dog, there would be little doubt about the matter. The symptoms are decidedly those of rabies. There is not the half unconscious violence of the phrenitic patient ; but there is method in the madness. Combined with a frightful degree of irritability, there is the artful plan how most effectually to execute the mischief—witness the dying scene.

The post-mortem appearances of rabies in the horse are, to a considerable degree, uncertain. Nothing unusual may be found in the membranes or substance of the brain—the stomach may be slightly or doubtfully inflamed—the lungs and the heart may be sound ; but, at least in every case that I have seen, the pharynx, the fauces, and the epiglottis have told tales. The appearances in these parts were highly suspicious, and, corroborated by the history of the case, they were decisive.

Mr. Moneyment's man is safe enough ; and, thirteen weeks having now passed since the infliction of the bite, I should hope that the chances are getting in favour of the baker. I fully agree with Mr. M. (in a private note), that the time for prevention is not yet expired ; that the virus may still be lying on the tissue on which it was deposited ; and that the excision or destruction of the part—even at this late hour—is not only admissible, but would probably be an effectual preventive.]

Y.

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## PNEUMONIA—CARDITIS—HEPATITIS.

*By Mr. W. DODMAN, Thorney Abbey, near Peterborough.*

A VERY beautiful grey aged cart-mare was observed by the carter to have a slight cough. Two days afterwards she refused her food : the circumstance was mentioned to the owner, who immediately sent her to me.

I first saw the mare on the 24th November 1836, 10 A.M.

Pulse oppressed, 50; breathing hurried; nostrils expanded; schneiderian and conjunctival membranes much reddened; stiffness about the fore-quarters, and unwillingness to move them; ears and legs rather cold. I bled to the extent of ℥xviij, which seemed to have a very beneficial effect. I gave magnes. sulph. ℥viij, digitalis pulv. ʒj; and ordered clysters of warm water, with a small quantity of table salt to be frequently thrown up; the legs to be well rubbed and bandaged, and the mare to be warmly clothed and placed in a cool box.

4 P.M.—Membranes continue injected; pulse again oppressed, 50; respiration worse; ears cold. Bleed to ℥xij; a warm perspiration immediately followed, and in other respects she seemed much relieved. Blister the sides; insert rowel in chest; and give the following in gruel every six hours: potass. nitr. ʒij, digitalis, antim. tartar. āā ʒj.

9 P.M.—Pulse 76, full; breathing better, ears and legs warm. She has been down, and moves about her box. I think her better on the whole, but the state of her pulse is calculated to create alarm.

25th, 10 A.M.—Pulse same as last night; other symptoms the same. Rowel is beginning to take effect; the blister has not risen; indeed, it has hardly had time to do so; but I am anxious to obtain speedy counter-irritation, therefore rub in some blistering liniment. Continue clysters and other treatment.

9 P.M.—The bowels have been kept in very regular condition by the clysters. The membranes are still injected—that of the nose has assumed more of a purple hue; she breathes better; there is more of regularity and natural action at her flanks; her ears and legs are of the natural warmth, but she is fidgetty, her countenance is anxious, and her pulse has increased to 100, hard, and full. The action of the heart is now distinctly audible at a short distance from her side. Her strength is remarkably well maintained. Bleed to ℥xij; let the medicine be given every four hours, blister repeated, and other treatment continued. Her only food consists of a few slices of carrots and a little hay. Each bleeding was pursued until the pulse was sensibly affected, or fainting appeared.

26th, 10 A.M.—The bleeding of last night has not at all affected her pulse, which continues the same in frequency and character. I have now scarcely a ray of hope of her recovery. Her strength is rapidly declining; depletive measures, therefore, must not be carried further. The other symptoms are much the same as last night, except that the conjunctiva has put on a *yellow tinge*. Horn down some thick gruel, and continue treatment, repeating the blister, &c.

9 P.M.—Much worse. Ears and legs cold—deathly, clayey cold; pulse 100, full, intermittent; then small; then it would beat a few powerful strokes, pause, again become feeble, succeeded by palpitation. She has been observed to look round at her sides two or three times during the day, and she has laid down *on her left side*, but only for a moment. Her dissolution is fast approaching. The rowel is going on well, *but the blister has not risen*. A sour-smelling froth hangs about her mouth. I did not believe she would continue long, but was determined to use every available means. Rub a strong stimulating embrocation on her legs; apply hot fomentations to the blister for an hour; and let the following medicine be given every six hours, the first dose with ℥viii ol. lini, hydrarg. subm., digitalis, gentian, āā ʒj.

10 P.M.—I was sent for in great haste. The fomentations had been used about half an hour, when the mare fell down, and all present supposed she was dying. When I arrived she had become more tranquil, was on her legs, and drank about three quarts of gruel. All the symptoms are aggravated. The pulse is increased in frequency, being about 100, and maintaining its strange, irregular character. The mare died about half past one.

*Remarks. Sectio Cadaveris.*—The lungs were only slightly inflamed, by which I must suppose that, although the symptoms were, in the early stage, decidedly those of pneumonia, and of a very urgent character, the inflammation had, by metastasis, assumed a more serious form, viz. carditis; probably from constitutional diathesis, as the mare was in high condition. The heart shewed appearances of the intensest inflammation, was enlarged, and both ventricles filled with blood. The liver was just beginning to participate in the mischief. The abdominal viscera were quite healthy.

This, in the beginning, was a clearly-marked case of inflammation of the lungs, and seemed to be giving way to the measures I adopted; but the delusion was transient: all the symptoms speedily assumed an extraordinary and fearful character, anomalous and contradictory. The breathing improves, the animal lies down, her extremities become warm, but the membranes continue highly injected, and the pulse still rises, and becomes full and hard, although the most energetic treatment was observed. Balancing the symptoms together, I concluded that the inflammation had become transferred to the heart; and the inactivity of the blister proved the intensity of that inflammation, and the little hope of recovery. How rapidly were the organs of the circulation involved, as it were, in common sympathy; and yet a diagnostic symptom for each. The yellowness

of the eye plainly indicated that the liver was not free from the almost general derangement. The blood, in all the bleedings, did not separate, but formed speedily into a dark homogenous mass. It is an instructive case, and one which I consider calculated to throw light on future practice.

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## A CASE OF PHRENITIS,

WITH SPASMODIC ACTION OF THE HEART IN A COW.

*By Mr. J. HAYES, Rochdale.*

ON the 2d of May, 1827, I was returning from visiting a patient, when, on coming to a place called Hufgreen, in the township of Ashley, Cheshire, I was surprised at seeing about twelve men chasing a cow with long poles, ropes, &c. endeavouring to entangle her and throw her down, in order that they might kill her. She had calved about two months before. She roared and tore about most hideously. I inquired the cause of all this; and was told that she began to be this way in the morning, but had shewn symptoms of being unwell a day or two before; that she had completely torn all the timber down in the inside of the shippen that morning, and roared and slavered most frightfully, running her head against any thing that came in her way; also that there had been in the neighbourhood seven other cows the same way within the previous three weeks, all of which had been shot; that there had been a strange dog killed close by, which they thought was rabid, and which they supposed had bitten these cows.

When the first cow began to be ill, they sent for a practitioner at Knutsford. This gentleman was of opinion that the cow was rabid, and ordered her to be destroyed, and which order was issued against the present cow. I waited till she was got into the barn, tied fast down, and secured. I then asked the owner if he would allow me to examine her, to which he consented. The pulse was so fluttering and quick that I could not count it; the pupils were exceedingly dilated; the mouth foaming; the tongue protruding out of the mouth; and very quick and short respirations. The action of the heart could be felt in every part of the body, with such convulsive jerks as to shake the whole frame so violently that it might be seen and heard at a considerable distance. I signified to the owner a desire to try what I could do by the effects of two or three days' treatment; and he readily agreed I should do what I thought proper with her.

I immediately opened the jugular vein, and let the blood flow until the strong action of the heart ceased, and the people about me thought she was dying. I then inserted a seton in each side of her neck, from the poll down to the parotid glands; dressed the setons with unguent lyttæ, and rubbed all the top of the head and neck with the same. I gave her potass. nit.  $\text{ziii}$ , supertart. potass.  $\text{ziii}$ , antim. tart.  $\text{ziss}$ , sodæ carb.  $\text{ziii}$ , Glaub. salts  $\text{zvi}$ , ol. castor  $\text{zvi}$ , with prussic acid three drops: this to be given three times a-day in gruel; also six quarts of gruel to be horned down three or four times a-day. After taking five doses she began to purge much black and very offensive matter; on the third day she began to eat a little hay and mashes, and from this time she recovered. Her owner kept her three years after, during which time she continued healthy: she was at last sold to the butcher, after being fattened.

I attended four other cows directly after this, in the same neighbourhood: they had the same symptoms as those I have just described, all of whom by similar treatment recovered.

I am disposed to think that prussic acid has a considerable effect in cases of strong spasmodic action of the heart, as I intend further to shew at some future time, by cases in which I have put it to a fair trial, both in the horse and cattle.

To see remarks on this case by you or some of your readers will much gratify me; as no doubt some of them will be able to give similar cases which have occurred in their practice, and which will add much to the general interest of the subject.

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[If Mr. Hales will favour our readers with the cases to which he alludes, the subject will be still more before us, and some one will be induced to carry it on. They are very interesting cases which Mr. Hales now describes.]

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## A VARIETY OF THE EPIDEMIC OF 1836.

*By Mr. HARRISON, of Lancaster.*

It is, perhaps, scarcely necessary for me to premise, that an epidemical disease, or influenza (but whether of a contagious nature or not, I do not pretend to determine; although from some instances which I have known, the attacks have been apparently owing to it) has existed in, and never for the last four years disappeared from, this neighbourhood. All ages, from a

foal of a month old to very old horses, have indiscriminately been subjected to its attacks; and as affections of the respiratory organs, particularly as one of its terminations, have been on the increase, I have herewith submitted for your consideration a few cases which fell under my observation.

As the *symptoms* of the epidemic have not, upon the whole, materially differed from those described by others of your contributors, it is not my intention to recapitulate them, but confine myself to the brief recital of cases illustrative of its fatal termination in, as it has been ignorantly and lamentably mis-called, broken wind.

I will begin with a little brown horse, which I bought in the month of June 1835, and which had at the time of purchase a bad short cough, with a peculiarity in breathing, that was pronounced by many (not excepting vets.) as broken wind. Now, this was an opinion with which I could not coincide; for although respiration was performed in a very peculiar and rapid manner, yet I had never previously witnessed any thing at all correspondent to it in the breathing of a broken-winded horse; and this, in conjunction with the idea of being laughed at for making such a purchase, induced me to persevere in medical treatment, even after I inwardly felt, and was forced to acknowledge, that in all probability there was not the least shadow of hope that I should be rewarded for my pains by the recovery and future usefulness of my patient. Perseverance, however, in this instance, as it generally does in others, surmounted many obstacles, and finally crowned my efforts with success; for he is at this moment as sound in his wind as any "horse alive;" but as the treatment which was daily and unremittingly persevered in for four months, would take more time than I can at present spare, and perhaps intrude too far upon your patience if given in detail, I will merely say of it, that a strong tincture of cantharides was twice or three times a-day rubbed upon the parotid glands, and extended down the whole course of the windpipe; sedative medicine was also administered night and morning.

In the autumn of the same year I had another similar case<sup>7</sup> in a young horse, five years old, in which the same treatment was resorted to, and with the like success; for he was sold to a dealer with a warranty for £60 at our Christmas fair, and has since turned out well.

The following cases are of a fatal nature; but they shew that a little more circumspection (which, by the by, appears to be a quality we poor vets. are rather deficient in, whether owing to our own natural stupidity, or deficiency of education) before giving a prognosis will free us from censure, which we do

not at all times, but which, in instances like these, we richly deserve.

On the 29th of last August, my opinion was asked relative to a mare pony, said to be broken-winded, and which had been in that situation for several previous months. Upon examining her, I distinctly and unequivocally stated to the owner my conviction that she was not so, but that the disease was an inflammation of the mucous membrane of the trachea.

How far my judgment of the case was correct I leave the profession to determine ; but I am led by circumstances to conclude, that here, at least, I am considered to be quite in the wrong. The pulse was quick and weak, varying from 70 to 74 or 75 ; respiration quick, but regular ; there was a short bad cough ; the trachea, all along its course, was peculiarly sensitive to pressure, and the Schneiderian membrane was of a pale brown colour. The ears and extremities were warm, nor did I at any of my visits find them otherwise ; and the appetite was moderate. The same treatment—as far as the liquid blister, with sedative medicine once a-day, and a mash diet—was persevered in for nearly three weeks, when there was evidently a very great improvement. Her breathing had become nearly natural ; the cough was very much alleviated ; the appetite greatly improved ; and the skin looking better, with a pulse little more than the natural standard. In this way she kept daily progressing, though slowly, towards recovery, until the 6th of October following, when I received notice not to administer any more medicine, as the owner thought it unnecessary, being firmly convinced that the pony was incurably broken-winded. After this time she was worked a little occasionally, until one night about the latter end of October, as they were riding her, she suddenly dropped, and died.

I had not an opportunity of seeing her opened, which I very much regret ; being thereby debarred from giving you any account of the post-mortem appearances, although I think, from the lesions which were presented in the following case, a tolerably accurate idea of them may be formed.

On the 9th of September, a large bay coach mare was brought from a distant part of the county to this place, and I was requested to attend her. She had for five or six weeks previously been under a farrier's charge, and during that time all means of cure, according to his ability, were employed ; yet she rapidly lost flesh, coughed, and breathed badly ; and he finally gave her up as incurably broken-winded.

When I first saw her on the 9th, she was in a sadly weak and emaciated condition ; pulse quick, yet weak, and averaging 67 ;

the ears and extremities were of a natural warmth, as was also her mouth. The Schneiderian membrane was of a dirty brown, with a slight serous discharge from the nostrils; and pressure in the neighbourhood of the larynx and the course of the trachea evidently gave her great pain. Her breathing was not much quicker than when in health; but the inspirations were remarkably short, the flanks suddenly dropping after each; still the expirations were uniform, and to the eye almost natural. The strong tincture of cantharides was applied, as in the preceding cases, with sedative medicine once a-day; and I was much pleased to find, after two or three days, that there was a marked improvement in her breathing, and her appetite was better. This system was pursued until the 15th, when the horse-keeper thought her so much improved, that a little walking exercise would be beneficial. A lad was accordingly put upon her back, who rode her about for nearly an hour, when, as he was returning towards the stable, she staggered, fell, and died.

I first examined the larynx, which was of a black and purple hue, as was likewise the mucous membrane of the windpipe throughout its whole extent; but the chest exhibited much greater disorganization than I could have anticipated. It contained several gallons of a serous fluid, in which was a quantity of flocculent matter resembling coagulated fibrin. Both pleuræ were highly inflamed, as were the bronchiæ, and in many parts filled with froth. The lungs had a few tubercles in their substance, but did not exhibit the least emphysema; and the heart was in a sad state of hypertrophy.

The next and last case was a three-year old mare, which I was called to see on the 12th of January last, when she gave up eating, and could not drink, as it always returned through the nostrils. Her breathing was quick; but as the larynx was very sore, it was attributed by me to that cause. The pulse was 60, quick and weak. The pituitary membrane highly injected, and a very trifling discharge from the nostrils. The ears and extremities warm; and she had a short, sore, cough. It was an every-day case of influenza, and was treated as such until the 16th, when I heard a very favourable account,—that her appetite had returned; she could drink well; that her breathing was natural, and the cough almost gone; and the owner thought her so much improved, that further medical assistance was not required. In this, however, he was unfortunately mistaken; for he came on the 23d to say that she had a relapse; upon hearing which I wanted to visit her, but met with a decided negative from the owner. Under these circumstances I could only advise a renewal of our treatment, which he promised to comply with;

and I heard nothing from him till he came, on the 25th, to say that she was dead.

The larynx, mucous membrane of the trachea, and bronchiæ, were in a high state of inflammation, as were the pleuræ—the lungs tuberculated—the heart hypertrophied; and the chest full of serum, in which there was a large quantity of flocculent matter.

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[There is one thing wanting in order to complete these interesting cases; namely, the nature and the quantity of the sedative medicine that was exhibited.—Y.]

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## CASES OF THE EPIDEMIC

WHICH APPEARED AMONG THE HORSES OF THE 10TH  
ROYAL HUSSARS, IN JANUARY 1836.

*By Mr. JOHN H. GLOAG, V.S. to that Regiment.*

IN continuance of my essay which was inserted in the last VETERINARIAN; I herewith send you six cases (out of a great number more) of the anomalous Epidemic which appeared among the horses of the 10th Royal Hussars in the beginning of 1836. Out of forty horses affected, fifteen died; thirteen from the actual disease, and two from the subsequent consequences of it. One of these was paralysis of the hind extremities, and the other disease of the mesenteric glands, with dropsy of the abdomen.

### CASE I.

*Dec. 24th, 1835. 12 A.M.*—Admitted a brown troop horse, six years old, in good condition, reported to me to be off his feed. On examination I could not see much the matter: he was dull and heavy; pulse not affected—coat looking healthy—extremities and legs comfortable—dung of a moderate consistence, but in small quantity.

He was placed in a loose box—diet changed to bran mash, and ordered to be watched.

*25th.*—This morning he is still dull and heavy—little or no observable alteration in pulse—he feeds a little—bowels inactive—no pain or any other prominent symptom of disease. Gave four drachms of aloes in solution, and in the evening one drachm of calomel in a ball, with a little ginger and gentian.

26th.—The physic has acted once or twice, but the horse is dull and heavy. Pulse 40, but weak. He feeds pretty well to-day.

27th.—Weakness increased. Pulse more debilitated, but still beating steadily at 40. He lay down through the night. The animal altogether worse; the gradual loss of strength and arterial power plainly shewed some thing was materially wrong, although an ordinary observer, who had not regularly watched the progress of the disease, would not be of that opinion. With a view of producing a re-action in the system, I blistered both sides most extensively, first shaving off the hair.

28th.—The blister has had no effect—the ointment to be washed off with warm water, and a fresh blister applied. Bowels quite inactive. One pint of common oil given, and one drachm of calomel in a ball. Injections per anum every three hours. Pulse is now from 40 to 45, and evidently beating more feebly. The animal takes plenty of gruel, and picks over his hay.

29th.—The horse's strength is gradually declining: the pulse weaker, and from 40 to 45. The blister has had no effect—bowels inactive. One pint of oil given, and injections repeated. He still picks a little hay, and drinks plentifully: coat looking healthy, and urine of a natural colour.

30th.—No change in any symptom from yesterday. Half a dose of physic given in solution, and injections.

31st.—Appearance of the animal much the same as yesterday: strength declining; pulse 45, and very feeble—drinks very freely, but bowels inactive. To a stranger there is still nothing alarming in his appearance, and I found it impossible to judge what organ was affected. I saw the animal was gradually dying, but in so strange and slow a manner, that, in spite of my better judgment, I would fain believe that the system would be relieved and throw off the disease. I gave two drachms of calomel, with a little ginger and gentian.

Jan. 1st, 1836. 9 A.M.—My patient much worse: pulse regular at 45, but scarcely to be felt—palpitation of the heart slightly externally evident. The debility became extreme—pulse imperceptible at the submaxillary artery, but the regular beat of the heart at 45 to be plainly felt by placing the hand on any part of the body. The number of the pulsations never increased until death; but the power, like a dying flame, gradually wasted itself away, until it could be no longer felt. About three hours before death the mouth became cold, and the membranes of a deadly white; and when he dropped, which he did at 2 P.M., he died almost immediately.

*Post-mortem appearances.*—Villous portions of the stomach

and intestines throughout of a very dark damask colour: these organs were filled with food in a fluid form. No apparent obstruction or inflammation throughout the intestinal canal. Liver very dark, turgid with blood, and easily friable, like a piece of rotten paper. Heart: its parietes were softer than usual, the interior linings of a deep scarlet blush, and it contained black blood on both sides. Lungs perfectly healthy, and other organs not named generally so, but every viscus seemed softened by slow disease.

*Remarks.*—I have given this case as being the first that was affected, and being curious as regards the state of pulse.

## CASE II.

*Jan. 6th.*—Admitted a young chestnut horse at 12 A.M., in good condition, very dull and heavy, and off his feed. Pulse 60, and weak. No fæces had been seen voided this morning—a very slight heaviness in breathing—legs, ears, and extremities comfortable—no perceptible pain. Bled three quarts, more could not be taken, or the animal would have fallen—blood black as ink, and flowed tardily from a large orifice. Blistered both sides very extensively; put a rowel in the chest; gave three parts of a dose of physic in solution, and one drachm of calomel in a ball, with ginger and gentian; ordered warm clothing to the body, bandages and hand-rubbing to the legs, and the food to consist of gruel, carrots, hay, &c.

*7th.*—Pulse 70, and the patient weaker. Medicine has not acted—respiration natural, but blister has had no effect. The blister to be washed off, and a fresh one applied. Injections to be given every three hours, and one pint of common oil administered. There is no sign of pain in any part of the body. He picks a little hay during the day, and drinks plentifully of gruel.

*8th.*—This morning pulse had risen to 80, and nearly indistinct. He began to throw his head about, as if something annoyed him. The bowels were still obstinately inactive. The pulse gradually grew weaker, until it could not be felt—the mouth became cold—the vital functions seemed to be perfectly paralysed. A little before 11 o'clock his eyes became bright and staring, with a swaying motion of the hind extremities: he seemed to gaze steadfastly at some object in the ceiling—sunk very slowly backwards—and expired immediately.

*Post-mortem appearances.*—The brain apparently softer in structure, and paler than usual. Lungs healthy. Heart softer in structure than in health, and, like Case I, of the same peculiar colour internally. The stomach and intestines similar to the fore-

going case. Liver gorged with blood, and greatly softened in structure; all other organs healthy.

*Remarks.*—The greater number of horses that died were of this description. Bleeding seemed to have a very injurious and often an immediately fatal effect; as an instance of which I will here mention, that I had three horses taken ill on the same day with the same symptoms; that I bled each of them at 7 P.M. the same evening, taking as much blood as the pulse would admit of: from one I succeeded in taking five quarts, from another three, and the other would not bear to lose more than two quarts. The blood was nearly black, and flowed in a wiry stream from a large orifice. On the following morning, when the men came to stables, all three horses were dead, and had evidently been so for hours. There was so perfect an absence in the evening of all immediately dangerous symptoms, that I did not consider it necessary to keep a person with them all night; and they must have died almost without a struggle, as the men who slept over head, and the sentry in front of the stable, heard no noise.

### CASE III.

*Jan. 10th.*—Admitted a young bay horse, off his feed, with great heaviness and depression; pulse between 50 and 60, and weak. No fæces have been seen voided. The diet was changed to bran. Three parts of a dose of physic were given in solution, and one drachm of calomel in a ball, with a little ginger and gentian—warm clothing to the body, and bandages and hand-rubbing to the legs. Towards evening he looked more lively, and was feeding.

*11th.*—This morning the pulse is upwards of 60, but weaker—great languor. The medicine has not acted, nor have any fæces passed—the appetite gone. I blistered the region of the liver most extensively—ordered injections every two hours, and gave four drachms of aloes in solution. The coat is looking healthy, and the extremities and legs comfortable, &c.—he drinks very freely of water or gruel; but the debility is fast increasing. At night the weakness being extreme, I gave two drachms of camphor, and two drachms of carb. ammonia in a ball.

*12th, 9 A.M.*—The animal excessively weak—still drinks very freely—bowels perfectly torpid. The blister, although of the strongest kind, has had no effect. The pulse 65 to 70, and nearly indistinct. I gave one pint of common oil. At 12 A.M. he began to shew those symptoms which several horses had done previous to a fatal crisis: viz. throwing the head up and down, the eyes becoming bright and staring, and a reeling movement

in his gait. Thinking from the quantity of fluid which the animal had taken, together with the medicine that had been given, that the contents of the stomach and bowels must be in a fluid state, and that, although there was no evident pain, there might possibly be some constriction or spasm of the intestines, which prevented their action, I thought I would try the effects of calomel and opium. I gave one drachm each of calomel and opium in a ball, and the same quantity at night, and at the same time I administered an injection composed of one drachm of opium in a quart of thick gruel.

13th.—Animal much weaker, but still takes copious quantities of gruel; and although evidently in a dying state, has drunk three stable buckets full this morning. The bowels have not been acted on, nor has the blister had any effect. I repeated the opium and calomel by the mouth, and the opium as an injection, early this morning and at mid-day. After 1 P.M. the weakness became extreme, and he died in a way similar to the foregoing case, at 7 P.M.

*Post-mortem appearances.*—Brain healthy. Lungs: the lining of the tracheal and bronchial cells of a deep scarlet flush; parenchymatous substance healthy. Heart similar in appearance to the foregoing cases. Liver quite decayed, almost a pul-taceous mass. Stomach and intestines shewing great traces of disease, the villous portions being of a dark damask colour, and, here and there, marked with patches of a sub-gangrenous nature. The contents of these organs were fluid, and the stomach was distended to a most unusual size with food in a fluid form. There was an increased secretion of mucus throughout the canal, but no apparent obstruction. The powers of life seemed to be paralyzed.

*Remarks.*—I have had several cases wherein, after death, these traces of gangrenous inflammation have been evident, and when before death the animal has suddenly and involuntarily passed black foetid fæces.

#### CASE IV.

January 20th.—Admitted a bay horse, six years old, at nine A.M., off his feed. Pulse a little accelerated and weak; bowels regular; respiration natural; great heaviness and depression. Diet changed to bran, and gave ʒij carb. amm. and ʒij camphor in a ball. He fed a little in the afternoon.

21st.—Appetite improved: pulse 40, and weak. I gave ʒiv gentian, ʒij ginger, and ʒj calomel.

22*d.*—He eats a little mash, and picks over his hay: pulse 45, and feeble; bowels inactive. I gave a dose of physic in solution.

23*d.*—No change for the better. Pulse risen to 55, but weaker. He drinks freely, but does not eat anything; bowels torpid. I gave ʒviiij gentian and ʒviiij ginger in balls; blistered the region of the liver most extensively, and gave clysters frequently.

24*th.*—Pulse 60, and weaker; bowels torpid; he drinks freely. Repeated the ball. The blister has not had any effect.

25*th.*—The pulse is now 70, and nearly indistinct. Patient worse in every point of view; debility extreme; he can hardly stand. Repeated the ginger and gentian one ounce each; applied the strongest blister all down the neck and front of chest, in order to rouse the system from its lethargic state. In the afternoon the animal began to nod his head; he grew giddy, and reeled about, and he fell at six P.M. The pulse was imperceptible, and I imagined that he would die like the others: however, after lying for some time, apparently in a dying state, he got up with extreme difficulty, voided a great quantity of soft fæces, and from that time every unfavourable symptom began to disappear. The blisters acted uncommonly well; the bowels became regular, and the animal, by the help of strong tonics daily, regained strength. He was discharged on the 24*th* February, apparently doing well. The patient was re-admitted on the 31*st* March. From the period when he was discharged, he had continued to throw his head about a good deal, both in the stable and at exercise; but as he was doing so well, and making flesh rapidly, I considered it might be only a habit, until within the last few days, when he fell backwards whilst at exercise. The appetite was now very good, coat sleek, and bowels regular. From this time he became slowly worse: he was perpetually tossing his head, night and day; and on the least excitement of noise, or when put out of his way in any manner, he would rear up on his hind legs, and give battle with his fore feet against the wall, and end by losing all command over himself, and falling violently backwards. His appearance when undisturbed was a constant motion of the head, and shaking of it as if to get rid of something annoying, and a swaying of the hind extremities, so that a spectator would almost think it impossible for him to keep his balance. I treated this new appearance in every way that I could devise, but without effect. I blistered the head—I blistered the whole spine—sheepskins were applied over the loins—I tried the effect of emetic tartar, &c. &c. The case, at last, became so hopeless, that I recommended his being destroyed; but before the order arrived, the animal, whilst eating

a mash, suddenly reared on his hind legs, fought frantically against the wall, fell backwards, and died immediately.

*Post-mortem appearances.*—All the structures appeared very much softened, particularly the liver and one lobe of the lungs. Stomach and intestines healthy. Brain very pale, and softer than usual; but no increased secretion in the ventricles. The medulla oblongata and spinal marrow only half their usual size; and although no fluid was found, I suppose that it must have escaped when taking the head from the body, or else how was the spinal cavity filled?

### CASE V.

*February 10th.*—Admitted a bay horse, three years old, off his feed, pulse 50. Animal very dull and heavy; bowels torpid. I gave one pint and a half of common oil, and clysters repeatedly.

*11th.*—Animal worse in every respect; clysters repeated, and one ounce of gentian and one of ginger given as medicine.

*12th.*—Bowels still completely inactive; pulse 60: animal getting very weak. Repeated the gentian and ginger, gave one pint of common oil, and repeated the clysters. With a view of producing reaction in the system, I blistered the front of the chest most extensively.

*13th.*—This morning the blister has begun to take effect well; chest very much swelled. The animal has always drunk freely of gruel, and picks a little hay. There is no change in the state of the bowels or general appearance.

*14th.*—This morning an inconsiderable quantity of fæces has been voided in a softened state. The pulse is 65; there is a very great throbbing at each pulsation in front of the chest, but the pulse at the jaw is very weak. Add a little salt to the clyster occasionally. The animal continued to drink freely, and the bowels were becoming gradually regular; one ounce of gentian and one ounce of ginger were given daily; but the weakness was still extreme.

There was no change in the treatment until the 18th, when the bowels were more regular; pulse 60, and very feeble: the weakness had daily increased, so that the horse can hardly stand; the throbbing in front of the chest has never subsided, and this morning the animal has suddenly fallen, and lay bewildered for a few minutes; one ounce of gentian, one ounce of ginger, and one drachm of calomel were given.

*12 A.M.*—He shews slight signs of cholicky pains, scraping the litter, and appearing uneasy. I gave two ounces of spirits of sweet nitre and two ounces of tincture of opium in a

pint of common oil, which relieved the pain. From this time the animal very slowly regained strength; the throbbing in front of the chest subsided gradually, and the bowels became regular; but, twice afterwards, he fell, without any obvious cause, as if he were shot. He took one ounce of gentian and one ounce of ginger daily, a little calomel being occasionally added, until the 7th of March, when he was discharged.

*Remarks.*—In cases 4, 5, and 6, I beg to direct the attention of the reader to this point,—that the animal seemed to become gradually worse until a certain crisis, when, if the deadly nature of the disease could be long enough combatted, the powers of life were enabled to throw off the incubus, and the animal did well.

#### CASE VI.

*February 9th.*—Admitted a bay mare, rising three years old, off her feed, dull and heavy; pulse 40, bowels regular. Her diet was changed to bran. She was put into a loose box, and watched.

*10th.*—Pulse 42 to 45; great languor; bowels becoming inactive. This morning she began to paw the litter, and shewed evident signs of cholicky pains. I gave two ounces of tincture of opium, and two ounces of spirits of sweet nitre, in a pint and a half of common oil. She was much relieved by this. I blistered the region of the stomach and liver most extensively, and warm clysters were thrown up repeatedly. At night I gave half a dose of physic.

*11th, 9 A.M.*—Bowels inactive; weakness and languor increased. Pulse 45, and weaker. The blister has not acted; drinks very freely of gruel; but eats little. I gave twelve drachms of gentian and the same quantity of ginger; clysters repeated.

*7 P.M.*—The slight cholicky pains have returned. I gave two ounces of spirits of sweet nitre and two ounces of tincture of opium in a pint of oil. The animal was again relieved. I now resolved to trust entirely to counter-irritation and stimulants. I blistered the front of the chest, and gave daily fourteen drachms of gentian and fourteen drachms of ginger, occasionally adding a little calomel. From this time until the 18th the bowels were completely torpid, the animal getting weaker and weaker, and the pulse daily increasing in number and diminishing in strength.

On the 15th the pulse had reached 110, and was scarcely perceptible; and it remained at that height for three days: during all this time the animal was taking these large doses of stimulants. She always drank freely.

18th.—She had now become so weak that she was tottering on her legs. My surprise was excited to see her alive, and every hour I expected a fatal change, when, suddenly, this morning, the bowels were evacuated of their contents (which were semi-fluid) and in an immense quantity. From that time the animal slowly regained strength; and the pulse was daily lowered in number nearly ten beats. I continued the same doses of stimulants daily, occasionally adding a little calomel. The bowels were regular from the 18th to the 20th; but from the 20th to the 27th they were in the same completely inactive state. On the 27th they were again voluntarily acted on, and then became regular; but during the latter period of torpidity of bowels, the appetite was daily improving, and the pulse becoming regular. This mare must have consumed about four pounds of gentian and four pounds of ginger!!

*Concluding remarks.*—Having now brought this paper to a conclusion, I will not pause to make any comment on it, as I am sure that my readers, from its extreme length, will heartily wish to turn over another page. I have given the greater number of fatal cases, that their post-mortem appearances may be compared. I should feel much obliged if the editors of THE VETERINARIAN will favour me with their opinion, whether or not they consider it to have been fever of a typhoid nature.

## CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

*By Mr. YOUATT.*

No. XIII.

PETHISIS—LION.

1836, April 4th.—I have heard this animal cough, and I fancy that he heaves more than he should at the flanks. Give five grains each of calomel and antimonial powder.

6th.—The medicine did not operate, but the cough is relieved. His flanks are much quieter; still I should wish his bowels to be acted upon. Repeat the dose.

7th.—The physic has purged him fairly. He feeds well, but he is dull, and he coughs frequently, and heaves at the flanks. Give him four grains of the hydriodate of potash morning and night.

10th.—I do not at all like this animal: he gets thin, he heaves at the flanks: he may be seen, yet scarcely heard, to

cough, and the countenance is becoming anxious. Give him to-day four grains of calomel and the same of antimonial powder, and resume the iodine to-morrow.

13th.—There has been a sudden and fearful change. After drinking his water, and that lukewarm, there comes on a laboured and spasmodic breathing, threatening immediate suffocation. This lasts about ten minutes, and then gradually subsides, but leaving a permanent heaving at the flanks ten times more violent than three days ago. He can scarcely be induced to move: the expression of his countenance is much changed, and indicative of distress. Give six grains each of calomel and antimonial powder, and some warm blood at night.

15th.—The purgative did not act, therefore five grains of each of the powders were given yesterday: he has now been well purged, but apparently with some griping. He is better. The spasmodic breathing after drinking remains, yet it is not so violent; but the cough continues, and the rapid emaciation and the anxious countenance. The appetite is as good as ever. Give six grains of the hydriodate of potash morning and night.

18th.—The spasms are subsiding, and the appetite continues; but his flanks heave, and he loses flesh every day. Give ten grains of the hydriodate morning and night.

20th, A.M.—The occasional spasms are gone, and he is in every respect a little better; but he begins to suspect his medicine.—  
2 P.M.—A fearful change has again taken place since the morning: his breathing can now be heard the moment I enter the repository. He is continually lying on his back, supporting himself against the side of the den, but shifting his posture every moment, with continual spasms of the abdominal muscles. We can make him change his posture a little, but we cannot induce him to get up. This is some abdominal affection, some metastasis of disease. The lungs are not, at present at least, so intensely affected, or they would not bear the pressure of the diaphragm thus thrown upon them. What can I do? I am afraid to give him more calomel; it has griped him enough already: still more I fear the croton. I have tried castor oil, Epsom salts; he will not touch them. Give him the warm blood of a sheep, and all the inside fat, and part of the pluck, and a little pill of opium in it.

21st.—He drank the blood and ate the fat; he is easier, and we can with difficulty get him to stir a little. There is still evident spasmodic action of the abdominal muscles. We cannot get a sheep to-night. Rob the legs of mutton of their fat, and give it, with less beef, and two grains of opium.

24th.—He has been gradually improving: the spasms are not

quite gone, but they are subsiding. He drinks a great part of the blood and eats the inside fat. The flanks, however, still heave ominously, and he coughs. We are gone back to the hydriodate, of which he has eight grains morning and night.

29th.—Little difference, except that the cough increases and the breathing is more laborious, and he is beginning to be disgusted with his new food. Still, however, persevere with it, and give ten grains of the hydriodate morning and night.

May 1st.—A sad relapse. His breathing can again be heard at a distance of many yards. He is continually getting up and lying down, moaning and roaring, and seeming as if he was about to breathe his last. He was coaxed to take some water, and the spasm gradually passed away. He was completely exhausted. Are we giving too much of the iodine? Is this, after all, more an intestinal than pulmonary complaint? The dung is natural. The cough continues. Lower each dose of the medicine to eight grains. Do not give up the warm food, but change it. Give a rabbit, just knocked on the head, and thrown to him struggling.

2d.—The whole of this day has passed without a spasm. Diminish the hydriodate to six grains: let him have nothing to drink but warm water.

3d.—He has again been spasmed, but not so badly as before. The warm water relieved him. One would almost think that he could trace its effect, for he will not touch any thing else, and turns from his milk and the blood with loathing.

4th.—Another spasmodic attack; the moaning and roaring dreadful: he now lies stretched at his length, and heaving as if every breath would be the last. Give him a rabbit to-night, and conceal an opium pill in it.

5th.—These spasmodic attacks now occur about eleven o'clock every morning, and five or six o'clock in the afternoon. Give a grain of the acetate of morphine about an hour before the expected time. The cough continues. Try the iodide of iron; give him four grains at noon.

7th.—These fits of exacerbation have ceased; but I do not know whether we have not a worse evil. The general breathing is more laborious, and he is stupid, and disinclined to eat. Never mind; we will keep him a few days under the influence of the narcotic. Increase the iodide to six grains.

10th.—He is dull and sleepy, and does not feed well, and breathes laboriously, but certainly not worse than a few days ago; I should rather say better. Continue the morphine and the iodide.

12th.—The violent exacerbations have not returned. The

animal is dull, and can scarcely be induced to eat. Leave off the morphine, and give four grains of the iodide of iron twice in the day.

14th.—He is more lively, takes more exercise, and has once or twice reared himself up against the bars. His breathing, however, is very laborious, and I hear that fearful cough. He is not worse than he was a fortnight ago. Is he better? I would say that he is if I dared. Do I hope? That I scarcely dare to do. But we will fight on; the prize is worth contending for. Continue the iodide, and coax him to eat, for his appetite has not yet returned after the narcotic.

16th.—He is not worse. Catching him down, and lying in a favourable position, I made the keeper open the door of his cage. It is a noble beast, and he suffered me to explore the whole of the left side of the chest. I could hear the air rushing, as I imagined, through a considerable cavity: if so, no power can save him.

17th.—This morning he was fortunately lying on the other side. The pectoriloquy was plainly heard; but I fancied that it was more distant, and in the farther or left lung. The case then is desperate; but he is more cheerful, and takes more exercise, and feeds and looks better. Let him take fourteen grains of the iodide of iron daily.

18th.—Increase the medicine to sixteen grains.

24th.—He is not worse, but he has ceased to improve. I do not like this pause. Continue medicine.

29th.—Still stationary. The medicine has been increased to twenty grains. I fear.

31st.—The change is come at last. He is again on his back, groaning dreadfully, and the countenance expressive of pain. He ate his food, however, last night. The gardens have been exceedingly crowded for two or three days, and the company have gathered about him and annoyed him, because he was ill. Give again the hydriodate of potash, four grains, four times a-day, and, at present, a grain of the acetate of morphine twice in the day.

June 1st.—The respirations have quickened three in a minute since yesterday, and they are more laborious; he is likewise neglecting himself. He lies down without scruple or care on his own urine and dung: he altogether refuses his food.

3d.—He is lost to all surrounding objects. He knows no one's person or voice. He is sitting, or standing up, or staggering about, wandering hither and thither, and strange fancies evidently filling his mind. At one moment he will be evidently abstracted, and the eye sunken and dull; then it will all at once be lighted up, and his noble countenance will be full of strange

but not ferocious meaning. Food—he is scarcely conscious of its being offered to him, and, consequently, no medicine can be administered. The heaving is dreadful, especially after these fits of delirium. Try to find something that he will eat or drink.

4th.—The delirium is passed; he is walking slowly and weakly about his den, but he has his grunt of recognition for all his old favourites. He ate half a rabbit last night. We happened to have some meat left: I ordered it to be given to him; he seized it, and ate more than three pounds, and we cheated him with ten grains of calomel in one of the pieces. Give him eight grains of the iodide of iron morning and night, and twelve grains of the hydriodate of potash twice in the middle of the day. Desperate cases require desperate remedies. We will try the full effect of the iodide.

5th.—Either the poor fellow has amazing strength of constitution, or there is power of no little efficacy in the medicine he is taking. He has once more rallied: he walks about for ten minutes at a time, and rears himself against the partition, and scratches it in good earnest, and then he is perfectly exhausted, and lies down, heaving with a violence it is painful to watch. Continue the iodide of iron, and give sixteen grains of the hydriodate of potash twice in the day.

7th.—He is regaining strength: he eats five or six pounds of solid meat daily, and the fæces are natural; but the respiration is as bad as or worse than ever; and after he has exerted himself, one would fancy that he would die every moment. Continue medicine.

9th.—Not so well; refuses his food. A slight degree of delirium. Kill a sheep, and give him the flesh and blood warm.

11th.—He has once more roused himself, and eats and walks about; but the consequent exhaustion is even more, and the emaciation is dreadfully rapid. He has not been observed to cough during the last three or four days.

14th.—He ate four pounds of meat in the night, and fought for his bone in the morning; but there is an almost total prostration of strength. Continue the medicine.

16th.—We have moved him into the Pheasantry, in order that he may be out of the way of the visitors. The removal was effected without annoying him much; for a fowl being, very soon afterwards, put into his cage, he killed it, and ate part of it. He is, however, very peevish and out of temper; otherwise I see little change in him, except that the breathing is, if possible, more laborious. Give him, beside his other medicine, one grain of the acetate of morphine at night.

19th.—The morphine has no effect, although the dose has been doubled; and, hope having quite fled, I wish the scene were closed. Continue, however, to give the medicines, and particularly the morphine, if he can be induced to take them.

21st.—He was living at 9 o'clock this morning: a quarter of an hour afterwards, one of the keepers, passing by, found him dead. From his manner of lying, he seemed to have fallen as he came out of the closed part of his cage, and to have died without a struggle. There was slight inflammation of the liver, but neither in the spleen, kidneys, or intestines was there one trace of disease. The cause of death was in the chest. There was not the slightest ulceration—no vomica, which I thought I had discovered; but considerable emphysema in the smaller lobes. With the exception of this emphysema, the whole lungs presented one uniform appearance—hepatization, apparently sufficient to render them impervious for breathing, but not that perfect character of induration which is often seen. There was much recent or existing inflammation of a sub-acute type. Innumerable minute tubercles filled the whole of this substance, all of them yielding to the slightest pressure, but none of them in a state of suppuration. The nature of the disease was plain enough; it was phthisis:—but when did it commence? what was the state of the lungs when the illness first began? when did the tubercles begin to form? was their growth arrested in its earliest state by the iodine? The animal had been seriously ill eleven weeks, and the tubercles, after all, were small and soft. Did the iodide of iron keep up or increase the inflammatory state of the lungs? In one sense, it was necessary; for when it was omitted, the animal refused all food, and there was utter prostration of strength. The acetate of morphine had very good effect in quieting the occasional and periodical spasms. My faith in the hydriodate of potash is somewhat shaken. It may protract the disease—it may alter its character; but it did not save the patient, although the exhibition of it commenced at an early period of the malady. Were the doses sufficiently large? If I have another case, I will give double, treble the quantity I have been accustomed to give, if I can induce the animal to take it. How much good would one or two copious bleedings have done at the beginning!—but that was altogether out of the question.

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## ON MOOR-ILL AND WOOD-EVIL.

*By Mr. Cox, of Leek.*

As there has been a mistake in my last paper on moor-ill, I am called upon to write again. I would that the readers of *THE VETERINARIAN* would look on that part of my last communication as null and void where it says "I consider the disease moor-ill or wood-evil to be a kind of garget, without the swollen udder, &c."

I have to thank the editors of *THE VETERINARIAN* for their intended services done me, although it proves a mistake\*.

In most writings on cattle medicine, a constipation of the maniplus, bowels, &c. is said to be an attendant on wood-evil; by some it is said to be the effect, and by others the cause, such as eating some acrimonious herb or herbs, leaves, &c. as are found near woods, &c. Hence the term Wood-evil. But to be brief: as I have before hinted, I take it to be a constipation of the maniplus, which will arise from various causes, &c. The moor-ill is said, by some writers, to be brought on by a want of fresh water; and others by picking up a scanty allowance of food, or some debilitating herb or herbs, on moors and commons; from hence the name Moor-ill. Thus, in the twilight of science our fathers indiscriminately called wood-evil, moor-ill, pantas, one and the same disease. But before I write my sentiments on moor-ill, perhaps I may be forgiven in saying, that I have been a pupil in two counties in England, and in practice in two others, from which I ought to know the different diseases which are incident to cattle. The cause of what I call moor-ill is at present unknown to me, for which reason I have before solicited the aid of any well-informed practitioner. I believe it is brought on by some peculiar herb or herbs, or otherwise some peculiarity in some lands on which they feed. On the one hand, poor food is not the sole cause, and on the other I have never seen it come on in good land. The symptoms and treatment I have laid down in my first paper on moor-ill. This complaint which I am now speaking of I have never seen only in the north of Staffordshire and north of Derbyshire.

\* We have occasionally altered slight inaccuracies of expression in the communications of our correspondents; but in no single case have we designedly interfered with the meaning; but in the present case, we, or the printer, carelessly and undesignedly left out the words "*according to their communications,*" I consider, &c. This certainly alters the meaning, and we are sorry for it. Mr. Mayer's well-written reply to Mr. Cox is on this account held back until the next month.

I flatter myself that I shall, at some future period, be able to prove from practical facts that what I call moor-ill is a disease distinct from rheumatism, and unattended by any constipation or inflammation of an intense character.

The cases which are before referred to I intend to send to you at some future period.

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## PROFESSOR COLEMAN AND THE LONDON VETERINARY MEDICAL SOCIETY.

[We somewhat reluctantly insert an extract from a letter received from our excellent friend Mr. Mayer, of Newcastle-under-Line. We had hoped that our pages would never more have been occupied by aught that had reference to late unpleasant events. Mr. Mayer, however, has a claim upon us which we cannot reject; his letter is very properly and temperately worded, and he pleads the cause of a society to which he and I were warmly attached during the period of its infancy.—Y.]

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IN perusing the detail you give in this month's Journal of Professor Coleman's opening lecture, he there states (speaking of the London Veterinary Medical Society), "It was a society over which he had the honour of being Patron for more than twenty years, *and in the formation of which he had a great share.*" This assertion rather places in a questionable point of view some portion of the letter which you did me the honour of inserting in your November Journal, relative to the formation of the society. As a duty, therefore, which I owe to myself, and fellow students at the time, I shall trouble you with more particular details as regards its early origin; and this I do with every deference that is due to one whom I must esteem and respect. If I am wrong in any of my statements, I trust my friend Mr. Youatt will correct me, and kindly fill up any chasm I may leave in its history after I left College, as he was one of its earliest labourers.

When I entered as a veterinary student in the autumn of 1811, there was no Veterinary Medical Society, or society of any kind, attached to the College, or existing among the students, nor had I the remotest idea that there ever had been one; the advantages, therefore, which the students enjoyed at that period were very meagre, compared to what they now are. Professor Coleman gave me a ticket of admission to all the lectures

which were delivered at the school in Windmill Street, where I had a particular friend who was going through his course of medical studies, for the purpose of qualifying himself to practise as a surgeon : he introduced me as a visitor to the Westminster Medical Society, which held its weekly meetings there, and ultimately got me elected a member. The advantage of such a society, connected with a school of medicine and surgery, struck me as of so much benefit to the students, that I immediately resolved upon mootng the establishment of a Veterinary Medical Society amongst my fellow-students at the Veterinary College. They immediately entered into it, and I was requested, with others, to draw a rough outline of the rules by which it was to be governed.

The first formation of it, in reality, occurred at the commencement of 1812, and its early meetings were held at a respectable inn, midway between Holborn and Camden Town, so as to accommodate the students at and about the College, and those resident at the West End. A large commodious room was taken there, and the meetings held weekly, as long as I was at College, which was up to the commencement of 1813. Thus was launched into the world The London Veterinary Medical Society, *without patronage of any kind, and nothing but its own intrinsic merits to swell its sails and propel it along*. The President and Vice-president were chosen from among the Fellows; but, rather more than a twelvemonth from its first formation, my respected friend, Professor Sewell, very kindly allowed himself to be nominated its President, which *gradually* paved the way for its admission within the walls of the College. In the course of two or three years from its foundation, our respected Professor allowed himself to be placed at its head as Patron; under whose fostering care, and that of Professor Sewell, it has worked well for the general interest of the students.

THOMAS MAYER.

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The account of Mr. Mayer is perfectly correct. The idea of the establishment of the Society originated with him; and at first there were not a great many who lent a willing ear to his suggestion. A few, however, of the more zealous ones were determined to make the attempt; and to Mr. Mayer, Mr. Habgood, and Mr. Henley, was entrusted the labour of drawing up a code of laws for our governance. Our place of meeting was a tavern in Marchmont Street.

We were *unpatronized*. It was clearly understood that the Society was not in favour at head-quarters. The meeting of the London Veterinary Medical Society at the College would then have been no more pleasant to Mr. Coleman than that of the Veterinary Medical Association was a little while ago. The jealousy was, to a very great degree, natural enough then—for most of us were young men, with, perhaps, our full share of the petulance of that age; and I am free to confess, that both at Marchmont Street and after our admission into our own house, there were some meetings, the indistinct recollection of which I do not like. Our motives, however, were good; and if we were a little riotous, we were afterwards sorry for it.

Mr. Sewell at length joined us, and it was with pleasure that I resigned to him a chair, which, owing to the good and kind opinion of my companions, I had occupied more than twelve months. To this succeeded our admission to the College Theatre, and, in due time, the acceptance, by Professor Coleman, of the honorary title of Patron. In the agitation of an introductory lecture, and that increased by the very unpleasant subject on which he was addressing his class, he fancied that he had an indistinct recollection of that which never had real existence. The beautiful language of Mr. Mayer is strictly true, that the London Veterinary Medical Society “was launched without patronage of any kind, and nothing but its own intrinsic merit to swell its sails and propel it along.”

Mr. Mayer sends a copy of the first Rules and Regulations of the Society that were printed. They do great credit to the gentlemen on whom the task devolved, and constitute the basis and the essence of the rules of the present Association; but we have not at present room for the insertion of them.

Y.

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## CONSULTATIONS.

### MECHANICAL OBSTRUCTION OF THE BOWELS—INTES- TINAL CALCULI.

A DISEASE has prevailed among the cattle, especially cows, near Aberdeen, this season, which appears to have been fatal in many cases, and to have been cured in none by medicine. It

seems not to affect the animal's appetite until it is far advanced ; and is found, on dissection after death, to consist of a complete stoppage in the gut by a ball of undigested food, firmly packed very low in the gut, from which it has been once or twice removed by the hand. The constipation which is produced resists the strongest laxatives, and the animal falls off rapidly, and becomes mad with pain before she dies. I should be very glad if you would give me any information about the origin of the complaint, or its mode of treatment, that I may be able to relieve those who are suffering from it.

### *Reply.*

The disease is, generally speaking, rather a singular one ; and you surprise me a little by stating that it is so common in your neighbourhood. Horses are much subject to "*dung balls*," or more commonly, "*dust balls* ;" but we have rarely met with the disease in cattle. In them "*hair balls*," however, are not unfrequently found, giving rise to the same kind of fatal obstruction of the bowels as that described. These balls are formed of the hair which they lick off either from themselves or their neighbours, and which becomes agglutinated together round some nucleus by the mucus and other matters which are met with in the intestines. They cannot be dissolved by any medicine which the stomachs and bowels could bear, and therefore can only be removed by the hand, or by repeated doses of purgative medicine, such as one pound of linseed oil with thirty drops of croton oil, and which does sometimes succeed in forcing the ball along. The dose may be repeated every twelve hours, and the quantity of croton may, by degrees, be doubled. Oatmeal gruel, well boiled, should be given frequently to drink, and if they do not take it freely, it should be forced upon them with a horn or bottle. Clysters should also be given frequently, and may vary in their nature ; first gruel may be tried, or soap and warm water ; then one ounce of tobacco infused in a gallon of boiling water, or common oil, or gruel, may be administered. Whichever is used, it should be frequently repeated. The whole surface of the belly should be frequently bathed with *hot water* ; and it may be advisable to bleed, and to repeat the bleeding.

It is difficult to say what is the cause of the disease ; but I do not think any other treatment likely to answer better, whatever may be the cause. A slight inspection would at once shew if it is what I have already stated ; but if it is merely undigested food, then it must arise from the kind of food upon which the animals have been living ; and we have found that in some cases,

where horses and cattle are feeding in pasture that is old, and when the grass has become rather woody, bleached, and tough, a similar disease has taken place. If such is the case, the disease can only be prevented by frequent changes of pasture, and if it can be got, a bite for a few hours a day upon a meadow appears likely to be of great service. A moderate allowance of clover or tares might be expected to have a similar effect.

D.

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## CORRESPONDENCE BETWEEN THE EDITOR OF "THE VETERINARIAN" AND MR. CHARLES CLARK.

[The readers of *THE VETERINARIAN* will forgive the intrusion of the following letters. In fact, they are the property of the patrons of this periodical, for they implicate its honour.]

46, Grove Street, Camden Town,  
12th Dec. 1836.

SIR,—In a letter signed "Clemens," in "The Centaur" of Saturday, Dec. 10th, 1836, I find the following language:—"It—the only veterinary journal that has existed for some time—has proved a *BASE PANDER* to the views of a mercenary and unintelligent institution. There has been a degree of *CANTING HYPOCRISY*," &c.

There was that in the composition of this letter which left little doubt on my mind that it was indited by Mr. Bracy Clark.

The manner in which this letter was introduced by the editor of "The Centaur," as coming from "a gentlemen so long-trying and consistent an opponent of abuse and oppression, and occupying so distinguished a position," &c. still more confirms my suspicion, and justifies me in asking—nay, compels me to ask, yea or nay—were you the author of that letter? and did you mean to apply the terms "base pander" and "canting hypocrite" to me personally?

I am, Sir,

Your very obedient servant,

W. YOUATT.

To Bracy Clark, Esq.

*To Mr. Bracy Clark.*

46, Grove Street, Camden Town,  
14th Dec. 1836.

Sir,—By the earliest post on Monday last I sent you a letter, in which I required to be informed whether you were the author of a communication in “The Centaur” of the 10th inst., signed “Clemens;” and whether you applied to me, personally, certain language contained in that communication. I have not yet received an answer, although there has been more than sufficient time for it.

Permit me to remind you of the propriety and necessity of an immediate reply.

I am, Sir,  
Your obedient servant,  
W. YOUATT.

To Bracy Clark, Esq.

Veterinary Infirmary, Giltspur Street,  
Dec. 13th, 1836.  
(Post Mark 14th).

Sir,—I have just been shewn by my uncle, Mr. Bracy Clark, a letter which he received yesterday from you, and also an answer which he had written to it (which you may see if you please), couched in highly indignant and by no means complimentary language, although without disclosing my name. But, as I am the writer of the letter signed “Clemens” in last week’s “Centaur,” I take leave to answer your note myself; and to observe respecting the language you complain of, that it was intended, evidently enough, to characterize the public conduct of THE VETERINARIAN as a Journal, and that it would be absurd to suppose it had reference, personally, to any one of the four avowed editors of that periodical. I should really have thought that you had been too long engaged in these affairs to be ignorant of the perfect right of any individual to express such an opinion of a joint publication like the present: but I now recollect that, some years ago, you wrote me a similar letter; only, on that occasion, there *was* no language to complain of; but you wished an explanation of something *I had not said* in my pamphlet on the abuses and malpractices at the Veterinary College.

Perhaps, if the omission marked by asterisks had been filled up, it would have amounted to an opinion respecting the character of the Journal in question but little different from that expressed in my letter to “The Centaur,” which I have no desire to disclaim.

As to the remarks by the editor of this paper, which have led you into this error, you will probably see in its next number that they chiefly bore relation not to my letter, but to an article of a purely professional character, which at the time of writing had been already received from Mr. Bracy Clark, with his own name; but I rather think that it is not his intention to follow up these communications.

I am, sir,

Your obedient servant,

CHARLES CLARK.

To W. Youatt, Esq.

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46, Grove Street, Camden Town,  
19th December, 1836.

Sir,—I have waited for the receipt of “The Centaur” of the 17th inst., to which you referred me. I find in it a *third letter*, signed by Mr. Bracy Clark, and *without date*; but I do not find in it that explanation which you gave me reason to expect. The language of the editor of “The Centaur” could not ‘at first, and cannot now, be misunderstood. He believed, or intended that it should be believed by his readers, that the letter, respecting certain passages in which I wrote to Mr. Bracy Clark, was actually the production of that gentleman.

You claim it as your’s, and I am bound so to consider it. You retract the application to me personally of certain language of which I complained; and by this retraction you have deprived me of the power of calling upon you for any farther explanation of the matter.

You, however, couple this with a doctrine to which I cannot for a moment agree; namely, that Mr. Charles Clark, or any body, or every body, has a right to impute to the joint editors of a periodical motives and conduct of the basest kind, and yet not be personally responsible to either of them. I will not argue the matter, but I enter my protest against your doctrine.

You, sir, know full well that THE VETERINARIAN is mine:—it is my property—it is under my management.

It is the proudest boast of that Journal, that the names of Dick, Karkeek, and Percivall, appear on its cover; that men like these will publicly acknowledge themselves my occasional coadjutors, and zealous for the cause to which THE VETERINARIAN is devoted. For that to which the initial of their respective names is appended they would demand to be accounted responsible; but, beyond this—we will share the *praise* between us—the *censure* must fall on the right shoulders—ON MINE.

I speak not in bravado—I court no quarrel—I would live in

peace with every one; but it is high time that that language should be discarded by the best of us, which would disgrace the lowest, and to which the lowest should not, cannot submit.

I shall not ask Mr. Charles Clark how long it is since he discovered that *THE VETERINARIAN* was so vile a publication. The November number of it contains a case of his, and appended to that was a promise that I should be furnished with a series of them. Let them come;—*non unde sed quid* is my motto.

One thing more I must say;—I think that the reference to the unsent reply of Mr. Bracy Clark to me was not quite in good taste.

I feel it imperative on me to publish this correspondence; for while I am replying to you, I am saying that which I wish every one clearly to understand.

I have the honour to be, Sir,

Your obedient servant,

W. YOUATT.

To Charles Clark, Esq.

## ANIMAL PATHOLOGY.

By Mr. YOUATT.

### LECTURE IX.

*The Medulla Oblongata, and the Nerves from it.*

HAVING taken a rapid sketch of the diseases of the nerves proceeding from the sensitive and motor columns of the spinal cord, we should complete our review of the pathology of the sensorial system of *animal* life, by considering the natural and morbid structure and functions of the organs of smelling, sight, hearing, and taste. This, I acknowledge, would be the regular course; but I shall not be much out of order, if I complete our examination of the spinal cord before I leave it; and that will give me the opportunity, some months sooner than I otherwise could, of addressing you on a malady of too frequent occurrence, and on which you have again and again pressed me to lecture;—namely, rabies, a disease principally of the organic system.

*The Medulla Oblongata.*—The spinal cord commences at the posterior edge of the pons varolii, or tuber annulare; and that portion of it which is contained within the cranial cavity is termed the medulla oblongata. It is of an oblong form—broad and thick towards the tuber, and diminishing in width and thickness as it approaches the foramen magnum. There is no part of the nervous system in which there exists so essential a difference

between the human being and the quadruped, as in the medulla oblongata. In man it is small and prominent; in all the domestic quadrupeds it is wide and bulky, yet comparatively smooth and tame. It is widest and most bulky in those quadrupeds in which the organic principle prevails, and there is some approach to the diminished size, yet the distinct appearance of the different parts of it, in proportion as the intellectual principle is predominant. The different structure of this portion of the spinal cord in the sheep and the dog will be an instructive study for the young pupil.

Let us look at this portion of the cord—the anterior or inferior surface of it. We recognize the two central columns, the corpora pyramidalia—different in different animals—bold and protuberant in the human being; less bold, yet retaining much of the same character in the dog and in carnivorous animals; and generally flatter and yet more bulky in the ruminant and the solipede. They are divided by a sulcus of considerable depth; but, if we examine it closely, we find many fibres *decussating*, crossing from the one side to the other, conveying the nervous influence which was derived from one side of the brain to the opposite side of the cord, and thus accounting for many singular circumstances attending palsy, especially when connected with, or arising from, cerebral injury.

*The Corpora Olivaria.*—Between these and the lateral columns are, in the human being and the carnivora, two prominent oval bodies—in the ruminant, two large and flattened ones,—the corpora olivaria; so called from the mixture of yellow and cineritious matter which they contain. The division between them and the lateral columns is very distinct in the human being and the carnivorous quadruped; in the ruminant it consists of little more than a superficial line. You will observe and recollect this difference of structure—the reason for it will appear plainly enough by and by. We examine these bodies a little more closely. They are covered by a thin layer of medullary matter, but within they are composed almost entirely of cineritious matter or neurine, very curiously condensed, packed together and folded as if it were for the purpose that as great a quantity of it as possible might be contained in the smallest compass.

Whence are these olivary bodies derived? With what are they connected? Of what portion of the brain are they the prolongations? When, six or seven years ago, I first ventured on this, to a veterinary class, untrodden ground, I was accustomed to say, that I found the corpora olivaria situated between the central and lateral columns in the medulla oblongata, uncon-

nected with the brain above, unconnected with the parts around\*. They had a peculiar and independent function to perform, and here they were.

Sir Charles Bell, to whom we all are indebted for the first correct views which we were enabled to form of the nervous system, said otherwise: he traced them, or fibres proceeding from them or coming to them, under the pons varolii into the cerebral hemispheres on either side. Most anatomists have given the same account. The best of the present day—the most correct, the simplest, the clearest, and therefore the best, and whose work, although on human anatomy, will be very useful to you, and should occupy a place in your little library—Dr. Jonas Quain, gives the same account of them. My friend, Mr. Percivall, says nothing of their origin. Girard says nothing definite, but when he speaks of them being covered at their origin, and near the tuber annulare, by a transverse band, he would lead us to believe that he was not aware of any connexion with, or derivation from, the brain. I must acknowledge that, after repeated dissection since of the brain of the horse, the ox, and the dog, I can trace no connexion between them and the brain above. They are designed to discharge a peculiar office, and they spring at once, as it were, into existence in the situation in which they are found†.

*Division of the Medulla Oblongata.*—Well, gentlemen, I am supposing that you and I are for the first time examining this portion of the spinal cord. We are studying the pathology of it, but we cannot make any progress towards a knowledge of that until we have ascertained its function; we must understand its use before we can tell how far or by what means that is impaired or lost. We do not like experiments upon living animals, but, if the end justifies the means, we may occasionally have recourse to them, and we know not a more important point of physiology than the function of the medulla oblongata and the olivary bodies; for if we may judge from what we have already

\* See VETERINARIAN, vol. vi, p. 580.

† In a most valuable manual of the Anatomy of the Brain, lately published by Mr. Solly, of St. Thomas's Hospital, I am much gratified to find a confirmation of this view of the corpora olivaria. "Some authors, among whom I may mention Gall, describe a fasciculus of fibres ascending from the olivary bodies through the pons varolii. I have not been able to satisfy myself of their existence. Rolando distinctly denies that any such fibres are to be met with; at the same time he suggests that the fibres he describes are most probably the anterior cords of the medulla spinalis, which are compressed, as it were, between the peduncles of the cerebellum and the olivary bodies." This view quite agrees with my own observations.—*Solly on the Brain*, p. 149.

seen of the brain and spinal cord, there is something of vital importance to be done when all the cineritious matter is collected together, and so artificially folded up and accumulated. We divide the spinal cord above the olivary bodies, and close to the pons varolii; for a little time depending on the tenacity of life in the animal, the breathing goes on somewhat hurried and disturbed, but it does go on. Every limb is powerless, but the heart beats and the lungs heave; we have destroyed the animal, life but the organic life remains. It is independent of the influence of the brain; it continues to act for a certain time, when all connexion has ceased with the common sensorium of animal and intellectual existence. This is an interesting fact. The brain has not all that to do with the functions of life which some of our teachers had led us to believe. We begin to suspect a great deal of inaccuracy of language. With the power of voluntary motion, with intellectual life, with that which ennobles the being, it has every thing to do, but the functions of animal life can be carried on without it. The power which governs the function of breathing is situated below the point at which we have divided the cord. We try another experiment. The intercostal nerves! They arise from the motor column—they are, to a certain degree at least, under the control of the will. We divide the cord a little above their origin; the breathing goes on, but it is laborious—the diaphragm has the greater part of the duty to perform, for *the intercostals have ceased to act*. Again, we divide the spinal cord above the origin of the phrenic nerve, and the breathing is still more imperfectly performed: *the diaphragm has ceased to act*, but the respiratory movement exists. Lastly, or, if you please, at the very first, we divide the medulla oblongata—if above the olivary bodies, without any marked effect—if below them, still with the continuance of the respiratory movement, but very imperfectly performed—if immediately across and through them, every respiratory movement being at once arrested, and the animal dropping as if struck with lightning.

*The Function of the Corpora Olivaria.*—Then we no longer wonder at the language of Sir Charles Bell: “The seat of power, which controls the respiratory motions, is in the medulla oblongata;” “he who holds the medulla oblongata in his hand has the key to the nervous system:” but we have some little objection to it. It is not the medulla oblongata generally,—it is a small and isolated part of it—the *corpora olivaria*, which possesses this wondrous power—and that, not only as it regards the respiratory movements, but, with one exception alone, every movement and every act of organic life. We object to the term

*respiratory movement* ; it is but a part of the function discharged by these bodies, and the nerves that spring from them. It is this limitation of organic power and function which has caused so much confusion in our conceptions and our language, and which has led to some erroneous statements with regard to the nervous system. It is not from this point that the respiratory apparatus alone derives its power of motion ; here is the source—with the exception just referred to—of every organic action. In these bodies resides the principle—the soul of organic life : at least of organic motion and sensation.

*The Nerves of the Corpora Olivaria.*—The glosso-pharyngeal and the great spinal organic nerves arise, says Sir Charles Bell and some other anatomists, from the middle (lateral) track of the medulla oblongata. They certainly spring from a fissure, of considerable depth in the human being, between the corpora olivaria and the lateral column, but in a direction which shews the derivation of their fibres plainly and palpably from the olivary bodies, and which minute dissection confirms. In the quadruped there is no sulcus. There is a faint line, but this portion of the medulla oblongata is composed of the corpus olivaria compressed and flattened out, with which the corpus restiforme, or lateral column, is blended, and in which it is lost. From this mingled mass a certain set of nerves proceeds. If there is some degree of repetition of that which I stated in 1834, you will kindly forgive it. Three years constitute almost an age in the history of the knowledge of the nervous system in the present state of general and physiological science ; and he has either been idle or clings too closely to his first impressions whose views on some minor, ay, and on some important points too, have not undergone considerable change. I frankly confess that mine have, I am still a student, and I trust that while I have the power of thinking I shall remain so. In this and the following Lecture I cannot separate the new from the old, and the importance of the subject must be received as an apology for the repetition.

*The ninth, or Glosso-pharyngeal Nerve.*—This used to be described as a branch of the great spinal organic nerve. From the side of the rounded head of the mingled mass of which I have spoken in our herbivorous quadrupeds, and between the origins of the seventh and the tenth pairs of nerves, are an uncertain number of minute filaments, arising in a line, and, before they unite into a nervous cord, passing through a ganglion first described by Mr. Mayo. We have to consider the character of the nerve at its first appearance. The corpora olivaria are decidedly on the inferior (anterior in the human being) surface of the cord,

and the nerve is composed of minute fibrils—not proceeding bodily from the cord—and arising in a line; these are the characters of a nerve of motion; but before, or as they unite, they pass through or form a ganglion—the character of a nerve of sensation—and these distinct properties are possessed by distinct fibrils, the more probable conjecture, or each fibril has the power of exciting motion or conveying sensation.

*The Course of the Nerve.*—This ganglion being formed, the nerve pierces the dura mater, and although it makes its exit from the skull through the same foramen with the tenth, is altogether distinct and separate from it; for there is a fibro-cartilaginous septum, or division in the foramen lacerum, which prevents them from being in contact with each other. The ganglion is formed during the passage of the nerve through this foramen, and is sometimes called *the petrous ganglion*, from its proximity to the petrous bone. Beside the principal destination of this nerve to the pharynx and the tongue, it communicates with various parts. Scarcely is the ganglion formed ere a filament from it enters a canal that leads to the cavity of the tympanum of the ear. It has no connexion, however, with the mechanism of the ear, but it takes this singular course in order to unite two of the branches into which it divides with the sphenopalatine ganglion, and that the third may be conveyed to the back part of the palate, over which it is distributed. If our patients could tell us the seat of many of their pains, they would perhaps complain bitterly of the ear-ach, in some of the sore-throats to which they are so subject. This and the evident and dreadful affection of the fauces in the rabid dog are well explained by this anastomosis. The sphenopalatine ganglion belongs to the ganglionic system; and it is easy to imagine that there will be many anastomoses between these two divisions of the organic nerves. Accordingly, we find that there are anastomoses with the tenth pair, and with several branches of the ganglial system, and also with the facial or seventh pair, a portion of which we shall claim as appertaining to the organic nerves. Many branches pass inwards, and ramify upon the pharynx, contributing with those from the tenth, which will be presently described, to form the intricate pharyngeal plexus. There it meets, and supplies with influence the stylopharyngeus muscle; assisting in the dilatation of the pharynx by drawing it upwards and backwards, and likewise also giving power to the constrictors of the fauces, and sending not a few fibrils to direct the action of the epiglottis. At length it gives some branches to the root and substance of the tongue, to the hyoglossus muscle which assists in retracting and depressing the

tongue, and is finally lost among the follicles and the substance of the dorsum of the tongue.

*The Function of the ninth pair of Nerves.*—This nerve is evidently connected with or presides over the deglutition of the food—the first act of it at least, its conveyance to the commencement of the œsophagus. The food having been sufficiently triturated, or needing no trituration, is conveyed to the posterior part of the mouth, in order to be swallowed; for this purpose the mouth is closed by the action of the muscles of the jaws, the anterior part of the tongue is elevated, and the posterior depressed; and the pharynx is expanded, and the epiglottis is laid down, and the food sliding over the dorsum of the tongue enters the pharynx; the isthmus of the fauces is closed against its return, and the constrictor muscles of the pharynx seize upon it and urge it onward until it enters the commencement of the œsophagean tube. This process is performed as readily and as accurately by the foal and the calf as by the full-grown animal, and is performed on fluid substances, far more difficult to be swallowed than those that are solid. And how is all this accomplished? By the influence of the glosso-pharyngeal nerve; by pure organic influence. But are there not many voluntary muscles concerned in the action? there are: their assistance was obtained before the will began to exert its power: these voluntary muscles then obeyed another influence; they were the servants of the principle of organic life. An association was formed which the will could afterwards assist or suspend, but not always break, except at the hazard or destruction of life.

*The excito-motory System.*—This has been satisfactorily explained by Dr. Marshall Hall. The voluntary muscles can and do act independently of the will in the performance of certain offices essential to life. There are certain sets of nerves, organic nerves, which are not only acted upon by certain stimuli in the discharge of the functions of life, but which have the power of calling upon other nerves, more or less under the influence of the will, to assist them in the full or more perfect discharge of their duty. The glosso-pharyngeal is one of these excitor nerves, and the act of deglutition is performed more by the influence of those motor nerves which it can call to its aid than by its own inherent power. The nerve is excited by the pressure of the food on its superficial filaments. It responds to the stimulus and acts, but the effect of that stimulus is conveyed to the medulla oblongata; it is reflected thence to the source of other nerves, and all the appropriate muscles of deglutition are excited to action. It is thus alone that we can account for the action of many a voluntary

muscle before the will begins to exert its power. It is thus alone that we can account for the perfect act of deglutition the moment the animal is born.

We shall better pursue this subject in our next lecture, when the tenth, or *great spinal organic nerve*, will come under consideration.

## *THE VETERINARIAN, JANUARY 1, 1837.*

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE meet the readers of *THE VETERINARIAN*, if not with unalloyed, yet with great pleasure, on the commencement of the tenth year of its existence. That we have been compelled to occupy a few of our pages with the correspondence between ourselves and Mr. Clark, we regret; yet we are confident of the forgiveness of our subscribers, and the contributors to the value of our Journal, for their honour as well as our own was implicated in the unfounded charge brought against us by that gentleman. To their decision we now confidently leave the matter in dispute.

The arrangement of our Journal is materially altered. A part of it is given to a full, yet, we trust, not tedious report of the debates at the meetings of the London Veterinary Medical Association. The discussion on the nature and treatment of the present Epidemic, and the commencement of the excellent paper of Mr. Morton on some of the energetic Poisons, afford sufficient illustration of the benefit which will accrue to the student and to the profession from the labours of such a society. Who cannot see the desirable and important consequences which must necessarily result from its establishment and working; and coming to us, by and by, in such a shape as to constitute a full apology for the present quietude, and patience, and good feeling of the one party, and exciting no unpleasant notion of compulsion or degradation in the mind of the other? The Veterinary Medical Association has only to pursue its present course, honestly devoted to the investigation of subjects illustrative of veterinary science, turning not aside to the right hand or the left, whatever may be the seduction, whatever the annoyance; and not many

years will pass ere that gradual, legitimate amelioration of our education and our practice will take place which it would be madness for any to oppose, and which all will hail with gratulation.

We have appended the abstract of the debates of the Association to the old VETERINARIAN, rather than making it a part of the Journal, in order that our readers may be enabled to make separate volumes of them at the end of the year. The increased size of the whole has compelled us to make some addition to the price of our periodical, and to which we are assured that our friends will not object. They will still have their *quid pro quo*, and in the present number they have a sheet thrown in. Circumstances have somewhat displaced our arrangements in the present number; but in the next, and, we trust, in every succeeding number, we shall be enabled to present our readers with some lithographed illustration of interesting points in physiology and pathology; every number shall likewise contain a review of some work directly veterinary, or intimately connected with our art. We are very much in arrears here, and we will try to wipe out all old scores. Other matter presses upon us, and, with these few observations, we take our leave for the present.

Y.

### Review.

*Quid sit pulchrum, quid turpe, quid utile, quid non.*—HOR.

*A Compendium of Human and Comparative Pathological Anatomy*, by ADOLPHE WILHEIM OTTO, M.D. Translated from the German, with additions, notes and references, by J. F. South, Anatomical Lecturer at St. Thomas's. B. Fellowes, Ludgate Street.

WE commence our series of Reviews with a work of much interest and value to the medical practitioner, and from which the veterinary surgeon will derive great advantage. It is, in truth, a compendium of the vices or morbid states of every part of the animal frame, principally relating to the human being; but, so far as the author or the translator has had opportunity of reading or observing, extending to every known animal. We have rarely seen a work in which so much important matter has been condensed in so little space. Let us take, as one of the shortest and simplest, the account which he gives of the lesions of *the spinal marrow*.

## § 244.

“THE MORBID CONTENTS are found in the bag formed by the arachnoid membrane, although not unfrequently also between it and the vascular membrane, which is here but loosely connected with it; and also sometimes between the dura mater of the spinal marrow and the spinal canal. We are not, however, to consider all the fluids here collected as the product of disease of the spinal membranes, as they may descend from the cavity of the skull or the cavities of the brain<sup>1</sup>. When the collection is that of water or lymphatic fluid, it is DROPSY OF THE SPINE, *Hydrorhacis*<sup>2</sup>. It may be either acute or chronic. It may occur alone, or in connexion with dropsy of the head; and, if in high degree, usually produces palsy, by pressure on the spinal marrow. Pus is here collected either in ulceration of the spinal marrow and its membranes<sup>3</sup>, or from the cavity of the skull<sup>4</sup>, from carious vertebræ<sup>5</sup>, as well also as effused from abscesses in the neighbourhood<sup>6</sup>. There is also BLOODY FLUID, OR PURE BLOOD, in a fluid or coagulated form, arising both from injuries affecting the spine, and from internal causes<sup>7</sup>.”

The figures have reference to the copious notes that are appended, containing references to the authors that have treated on these diseases, or cases that are illustrative of them. We will take only those that appertain to our own profession.

[2.] I have found this several times in animals, namely, in monkeys and dogs, and especially in tubercular disease, and in sheep with the gid. I have also found in a stag, which I kept for many years, and which at last was attacked with palsy of the hinder limbs, a considerable quantity of water in the spinal canal.

[6.] In horses and cattle, inflammatory tumours in the neck, and in horses ulcers in the pole and in the withers, sometimes effuse pus into the spinal canal.

[7.] This has occurred in a horse from violent exertion, *v. Journal de Méd. continué, Feb. 1811*.

## § 248.

VICES OF TEXTURE of the spinal marrow are generally similar to those of the brain. In most instances, INFLAMMATION OF THE SPINAL MARROW, *myelitis*<sup>1</sup>, which occurs partly as a consequence of injuries and diseases of the vertebræ and their ligaments, partly as an idiopathic disease, and in greater or less connexion with its membranes, gives rise to them. The seeming apoplectic effusion of blood in the tissue of the spinal marrow itself, frequently arising from congestion of blood and from morbid irritation, must be distinguished from this active inflammation of the spinal marrow<sup>2</sup>. The diseases in which the spinal marrow mostly exhibits the traces of existing irritation and inflammation, are many fevers<sup>3</sup> and eruptive diseases<sup>4</sup>, hydrophobia<sup>5</sup>, painters' colic<sup>6</sup>, epilepsy<sup>7</sup>, trismus<sup>8</sup>, tetanus<sup>9</sup>. St. Vitus's

dance, &c. The spinal marrow in such cases often exhibits a rosy red colour, with some dusky spots and streaks, enlargement of the minute vessels, injection of its membranes, oftentimes distinct swellings, and always more or less variation from its usual consistence; namely, hardening, or more commonly softening, or complete dissolution into a discoloured fluid, frequently mingled with blood. More rarely does the inflammation of the spinal marrow appear to run into true suppuration<sup>11</sup>; small abscesses even have been found in it<sup>12</sup>. Still more unfrequently does gangrenous destruction occur in the spinal marrow; never indeed primarily, but only in defined spots. SPURIOUS FORMATIONS in the spinal marrow are uncommon, viz. tumours, tubercles, and sercoms<sup>13</sup>. In a few instances only have extraneous bodies been observed to remain in this organ<sup>14</sup>.

[3.] In oxen and sheep, *Chaussier* and *Girard*; and in the latter animal, *Ollivier*. P. 375.

[5.] In oxen and horses, *Dupuy* and *Barthelemy*.

[14.] A small shot in the spinal marrow of a bird, v. *Ephem. Acad. Nat. Cur. Dec. II, Ann. X, Obs. 34*.

To a lecturer this work is beyond all price: it should be at the right hand of every medical writer; and the student will derive from it enlarged and correct views of the pathology of every part of the frame. The notes of M. Otto display most extensive research, and the translator has added many which do credit to his talent and diligence.

No work, however, is perfect; and we must expect some trifling errors, and especially when the writer is compelled to speak of that which could not have come under his own personal observation, and for an account of which he was compelled to rely on very insufficient sources of intelligence.

We smile when our author tells us, that “sanderack usually arises mechanically from false quittor, whereby the hoof is entirely thrown off at the coronet;” although we agree with him, in the same section, that “the hoof of the horse, in corns, is sometimes softened, loosened, and soaked in blood;” and that “to abscesses of the nails belong the quittor and thrush of veterinary physicians.” We wonder a little when gravely informed that the wolves’ teeth in the horse grow in the palate; and we must certainly enter our protest when we are gravely told that windgalls are “tumours full of synovia, which originate in a partial extension of the articular capsule.” But these are trifles light as air compared with the sterling value of the work. He has given a sufficient reason why these defects must occur:—“anatomists and pathologists rarely possess sufficient zoological and zoomedical knowledge; while veterinary physicians, on the other hand, have as rarely sufficient knowledge of physiology and pathology.” We

plead guilty, and with shame we do so, to this charge ; and why ? Because our education has been so imperfect, and we have been systematically taught to dread some fearful evil, in being prepared to meet and converse with—to instruct, and to be instructed by—our medical brethren. We have been “cabinued, cribbed, confined,” to a degree that would scarcely be thought possible in this age of increasing light.

If we caught aright the language of one of those gentlemen who has done us the honour to become an honorary associate in our new institution, it was to this effect:—“Every one who studies human anatomy is ready to acknowledge the importance of uniting with it the study of comparative anatomy ; but, as a surgeon, I am still more sensible of the advantages resulting to the science of human anatomy from associating with it the phenomena of disease, because morbid changes throw light upon the natural functions in a much more impressive and instructive manner than any other mode of research. It is from knowing that the veterinary surgeon necessarily combines a deep interest in the diseases of the animals which it is his province to treat, with a careful examination of their natural structure and functions, that I consider his department of science capable of conferring the highest benefits upon that which I have the honour of teaching.”—“I can only consider myself,” says another eminent practitioner, “entitled to such a distinction—that of being elected an honorary associate—on the ground of a fellow-labourer with others, to add to the common stock of medical and surgical knowledge, by the valuable illustrations which veterinary science and practice abound with ; and by a sincere respect for that most important department of the profession, and its enlightened and zealous cultivators.”

Gentlemen, we thank you : we will not quite deceive your expectations. We receive this volume from you with thanks, for its “illustrations” are “valuable” indeed ; and we trust that the time is not far distant when we may be admitted as humble, but not quite valueless, workers in such a field.

Y.

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### Medical Jurisprudence.

WOLFE v. ELMORE, *December 7th, 1836.*

THE plaintiff, in the month of August last, exchanged a bay horse, valued at 80 guineas, which he had previously purchased of the defendant, who is well known as a horse-dealer, with him

for a grey horse, giving also £5 to boot, and receiving a warranty of soundness with the grey. This took place on the 25th of August. The horse was ridden as far as Woodford, about 10 miles, by the plaintiff's groom, on the following day, and on the succeeding day he proceeded 30 miles farther to Woodhall, where was the country seat of the plaintiff. On his arrival he was perceived to be lame, and, a veterinary surgeon being called in, he was pronounced to be unsound on account of his having corns, an enlargement of one of the fetlock joints, and a splint. The plaintiff, in consequence of this, wished to return him, but the defendant refused to take him back; he was therefore sent to the Horse Bazaar, and sold by auction to the defendant for 50 guineas. The action was brought for the deficiency and the expenses.

We have not been able to obtain any authentic account of the evidence produced on the trial. We have often asked our veterinary friends to have the kindness to inform us when these trials are coming on. A faithful report of them, at least, should be given, and many important points in veterinary jurisprudence and horse knowledge might be elucidated.

A Sunday newspaper, however, contains copies of most of the certificates which were then produced; we transcribe them, for they present an almost incredible discrepancy of opinion, and will probably be added by our readers to their collection of *veterinaria curiosa et opprobria*.

Mr. Sewell examined the horse on the 1st of September, soon after the discovery of the lameness, and it was chiefly on the faith of his certificate of unsoundness that the action was commenced. The certificate runs thus:—

Sept. 1st, 1836.

I certify, that a grey horse which I have examined this day, for Richard Birch Wolfe, Esq. is spavined in both hock-joints, has splents on both fore legs, the near fore fetlock joint is considerably enlarged, with chronic disease of the ligaments; there is a corn in the off fore foot, and separation of the sole from the crust in that part. The horse is lame, and decidedly unsound in consequence.

WILLIAM SEWELL,  
Assistant Professor, Royal Veterinary College.

Three months passed on before the matter was brought to trial, a little before which, the parties, in order to strengthen their respective cases, applied to other veterinary surgeons. The horse was sent to Mr. Field on the 1st of December. His certificate most curiously corroborates that of Mr. Sewell.

224, Oxford Street, Dec. 1.

I hereby certify that I have this day examined a grey gelding sent here for Mr. Yates, and observe that he has a slight defect in the off-eye, which

prevents him from being considered perfectly sound; a splint on each fore-leg; enlargement of the spavin place of both hocks, particularly the near; and a thrush in the near hind foot; but these do not at present occasion inconvenience in his action. He is about nine years old.

J. FIELD, Vet. Surgeon.

On the same day he was sent to Mr. Turner; he sees not the defect in the eye, he acquits the horse of spavins, yet pronounces him unsound.

311, Regent Street, Dec. 1.

I hereby certify that I have this day examined a grey gelding, sent here by Mr. Elmore, particularly with regard to his hocks, and am of opinion that the said gelding is perfectly free from spavins, and from lameness: but I observe a very considerable splint on the inside of his near fore-leg, close to the knee-joint, and his off-fore foot is slightly contracted. The latter defects I am of opinion render him unsound.

J. TURNER, Veterinary Surgeon.

These are the certificates produced by the plaintiff. Their coincidences and their differences would be amusing, if we could forget their bearing on the welfare of our profession. The defendant, in the early stage of the proceedings, took likewise the opinion of a veterinary surgeon. The horse was sent to Mr. Boutal. The following is his certificate

32, North Row, Park Lane, Sept. 6th, 1836.

I certify that I have this day examined a grey gelding, sent here by Mr. Elmore, which said gelding has a splint on the fore-leg; but this is of no consequence, and, in my opinion, he is sound.

J. BOUTAL, Veterinary Surgeon.

As the decisive day drew near, the defendant fortified himself with other opinions.

40, New Bond Street, Dec. 2.

I certify that I have this day examined a grey gelding, sent here by Mr. Elmore, and I find there is a splint on the inside of each fore-leg, just below the knees; but they are of no consequence at present, and in other respects I do not perceive any symptoms of unsoundness.

W. MAJOR, Veterinary Surgeon.

John Street, West.

I hereby certify that I have examined a grey gelding this 3d day of December, 1836. I consider him sound.

J. T. LANGWORTHY, Veterinary Surgeon.

8, Park Lane, Dec. 3.

This is to certify that I have examined a grey gelding, sent this day by Mr. Elmore, and find a splint of a very trifling nature on each fore-leg, which I consider of no consequence. I believe him to be quite sound.

A. HENDERSON

The jury did not trouble the learned judge to sum up the evidence, but gave a verdict for the plaintiff.

Many thoughts, but not one dishonourable to the witnesses, press on our minds while we record this strangely conflicting evidence. These discrepancies in the testimony of witnesses on mere points of medical observation and skill, should not exist: they would not occur in any point of human medical jurisprudence. We will return to this subject very shortly.

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## ROARING.

### BROWN v. MOORE.

THIS was an action brought to recover the sum of £60, for a horse that had been sold by the defendant to the plaintiff. The horse was at the time of sale known to be a little affected in the wind, in other words, to be what is called a "roarer," when it was galloped rapidly; but it was verbally warranted as free from this defect when it was only trotted. The plaintiff, therefore, paid for it a sum of £80. On his first trial of the horse, after the sale, he found him to be as much a roarer in trotting as in galloping; he therefore wanted to return it, but the defendant refused to accept it, and now meant to set up "a purchase with all faults", a thing highly unlikely to happen when a man paid such a sum as £80 for a horse.

*Mr. Rosson* gave the following evidence:—I am acquainted with the plaintiff. He is a draper, at Shadwell. In September last he requested me to go with him in search of a horse. We saw a horse at East's livery stables: a man named Dossiter, Brown, and myself, were there. Defendant's horse was shewn out. The price that the horse originally fetched was named to the plaintiff; it was 190 guineas. The horse was an exceedingly handsome animal. He was told that the horse had the influenza, and that it was not fit to proceed to work. Plaintiff saw the horse in double harness; he offered £70 for it—this was after it had been tried. Dossiter said that he considered him to be a roarer. It was said at what pace that disease exhibited itself. It was casually remarked that, if the plaintiff wanted the horse at slow paces, it would not be observed. The plaintiff said he did not want the horse to gallop. I am not aware that any particular observation was then made by Dossiter: it was after this conversation that the bargain was made. It was for £80.

*Cross examined.*—He first offered £70. He observed that the

horse might not turn out to be worth £5, and that £70 was a great deal of money to give for the horse. There was no attempt to disguise the unsoundness. The horse was bought, like a piece of calico, with all faults.

*Mr. Thessiger* submitted that on this evidence the plaintiff must be nonsuited.

*Lord Denman* said that the plaintiff's witness had certainly proved the defendant's case, and a nonsuit was accordingly entered.

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### Foreign Department.

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#### EXTRACTS FROM FOREIGN JOURNALS.

##### RUPTURE OF THE FLOATING PORTION OF THE COLON IN A HORSE.

*By Messrs. DUPUY and PRINCE.*

A LITTLE baggage horse, ten years old, had colicky pains during twenty-four hours, and then died. The following were the abdominal lesions which appeared a few hours after death. The thorax and all its contents were free from disease. The intestinal canal was moderately distended with flatus. A small portion of air, and three or four pounds of liquid alimentary matter, were found in the peritoneal sac. The floating portion of the colon, about six inches anterior to the pubis, presented an oval rupture, six inches in its greatest diameter. The rent in the mucous coat was not quite so extensive as that in the two other tunics of the intestine. Through this rupture the fecal matter had found its way into the peritoneum. At its base, the intestine was dilated by an oval pellet, six inches long and four wide, formed by the remains of the fibrous portion of the dry food of the animal, apparently of recent existence, and covered by a thin coat of mucus. Its presence seemed to have produced very little irritation or inflammation in the intestine. Nothing else that was unusual appeared, except the accumulation of a considerable quantity of alimentary matter in the cæcum, similar to that ordinarily found in the stomach, but harder. It was divided into masses of nearly an equal size, and as large as two fists. The mucous membrane of the cæcum had not undergone any alteration.

During his illness, the horse had not ceased for a moment to be tormented with violent colicky pains. The right flank was more tympanized than the left—the conjunctival membranes had been injected—the pulse was small and accelerated—and the animal was continually down, rolling upon his back, with his legs bent. He refused all nourishment. The treatment consisted in rubbing him well, leading him about, and administering mucilaginous drinks, and also oily and ammoniacal ones; with warm mucilaginous enemata, and also with cold ones. The animal returned them the moment they were injected. He was also back-raked, in order to get at an obstruction which his attendants thought they had detected at the pelvic curve of the intestine. The animal did not pass any dung.

The immediate return of the injections, would it lead to the suspicion that there was an obstruction near the anus? In cases very different from this, the injected fluid is occasionally returned quite as quickly; therefore no conclusion can be drawn from this circumstance. It is to be lamented, that among all the symptoms which have been grouped together, and called stercoral colic—colic produced by the presence of some mechanical intestinal obstruction—there are none that will designate, with precision, the intestine in which the calculus lies. A correct exposition of these symptoms would be invaluable; and, in the present case, there is no doubt that this animal might have been saved, had it been known that a man's arm would reach within a few inches of it.

D. & P.

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There is a method by which the existence of rupture of some portion of the intestinal canal may be detected, although not the part at which the rupture exists. By placing the fingers under the tail, as if with the intention of exploring the pulse at the coccygeal artery, rapid convulsive movements of the inferior coccygeal muscles will occasionally be felt; they indicate rupture of the intestine in some portion of its extent.

The observation of this has occasionally given us great confidence in our diagnosis, and enabled us to announce a rupture of the intestine during the life of the animal, and has prevented us from tormenting our patient with drinks and other means and appliances, at a time when all medical skill would fail. I particularly recollect one case, in which, being consulted about a horse, I at once affirmed that nothing could be done, and that the animal was irrecoverably lost. I was laughed at for my prognosis, and the professor, whom I met, treated it with a

great deal of ridicule. The horse died, and was opened at Alfort, in the presence of the facetious professor and several of his pupils; when, as if to avenge me for the pleasantries which had been lavished upon me, two ruptures of the intestines were found instead of the one which I had predicted. D.

*Journ. des Sciences, Zooliat., Juillet 1836.*

I well recollect a case in which I felt this convulsive action of the inferior coccygeal muscles, in a case of apparently violent colic; and post-mortem examination developed rupture of the colon: but I acknowledge that I did not then trace the connexion between this symptom and the intestinal lesion. I shall be more on the alert another time. Y.

### Miscellanea.

#### A SINGULAR CASE OF DEPRAVED APPETITE IN A COW.

*By M. SORILLON, Jun.*

SINCE she was six months old, a heifer belonging to M. Du-bois, of Martins, was observed often to leave the meadow in which her mother and the other cattle fed, and run along the lanes and the hedges, seeking for something which she ate with singular appetite. The cowherd was not a very attentive fellow, and it was only by chance that he discovered the object of her eager search. One day he surprised her by the hedge side, eating with avidity a quantity of human fæces. It was with great difficulty that he could drive her away from the place.

After that, he saw that whenever she was at liberty in the meadow, she was diligently searching about for this singular food, and more than once I saw her thus employed.

He has had her for three years since that time; she always appeared to be in good health; and she was in a very fair condition, but she, now and then, has that short cough which is the frequent precursor of phthisis; indeed, it would not be at all strange if that disease was developed under the influence of food so charged with calcareous salts.

Her sister also had a decided fancy for animal substances, and eagerly gnawed every bone she could find.

*Rec. de Méd. Vet., Janv. 1836.*

THE EMPLOYMENT OF SULPHURIC ACID IN BLISTER  
OINTMENT.

PHILLIPS v. WOOD.

THIS was an action brought against a medicine-vender for applying improper remedies to a horse. The defendant resided at Chippenham, and application was made to him for a blister for the legs of the plaintiff's horse. It was applied according to the directions of the defendant; but instead of operating as a remedy, the flesh sloughed, the legs became swelled, and the horse was rendered useless. The stuff applied for the blister having been analysed, it appeared that one part in nine was sulphuric acid. Several of the veterinary profession deposed that sulphuric acid was highly deleterious, and ought not to be used at all in blisters. An equal number stated that it was often used very successfully. They differed, however, as to the proportions, some saying one in twenty-four parts, others, one in forty-eight or fifty parts; but none went so far as to say that one in nine parts might be safely used. Verdict for the plaintiff, damages £32 10s, being the value of the horse, and for incidental expences.—*New Sporting Mag.*

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A LIST OF PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS  
AT THE ROYAL VETERINARY COLLEGE.*Dec. 1st, 1836.*

Mr. E. Hodgson, Market Stainton, Lincoln.

Mr. J. J. Rogers, Exeter, Devon.

Mr. H. Hogreve, Dublin.

Mr. W. S. Wallis, Halsted, Essex.

Mr. N. A. Goslin, India.

*Dec. 15th.*

Mr. A. J. Rogers, Knightsbridge.

Mr. H. Daws, London.

Mr. William Batten, Oswestry, North Wales.

Mr. Joseph Laver, Somerton, Somerset.

*Dec. 22d.*

Mr. E. T. Barber, Exeter, Devon.

Mr. H. Freake, Northampton.

Mr. John Saunders, London.

Mr. J. W. Winter, London.

CONTINUATION OF CORRESPONDENCE BETWEEN THE EDITOR  
AND MR. C. CLARK.

MR. C. CLARK has addressed to me another letter, received after the previous correspondence was all printed; he demands that that also shall appear, if any is published. He having alluded to my letter to Mr. Bracy Clark, I am compelled to publish that also: but the reader shall not be deprived of one inch of *THE VETERINARIAN*: this is all thrown in, and I do implore his pardon for the tax laid on his patience by the addition of so much extraneous matter. I will not make a single comment on these addenda.—Y.

19, Giltspur Street,

December 22d, 1836.

Received in the afternoon of the 23d.

Sir,—I received your very testy letter of the 19th inst., but have been too much engaged to answer it earlier. Having always entertained the same contemptuous sentiments respecting the general politics of *THE VETERINARIAN*, and been accustomed to consider that you were aware of my opinion, I was at some loss to understand why you should wince so much at the expression of it. But on reflecting that your Journal has now been several years without rivalry or opposition of any kind, and uncorrected by criticism, it seems not so wonderful that your irritability should be excited now an opponent has taken the field; and I therefore attribute it to general annoyance, and not to my slight remarks in particular.

Under this nervous state of feeling you are inflicting correspondence upon us, and it seems intended to bestow it also on the readers of your periodical. I find that Mr. Bracy Clark has received by the same post that conveyed my last to you, another most peremptory note, “requiring to be informed, &c.,” and also a long epistle of an entirely different character. If I respond to you this time, it is for the purpose of noticing several singular assumptions in your letter, which are calculated to mislead. What is meant by asserting that you “find in the ‘*Centaur*’ a *third* letter from Mr. Bracy Clark?” He has not written or sent to that paper a single letter, unless you so denominate the article on “Arteriotomy,” in the last number.

I cannot answer as to any supposition or belief of the editor of the “*Centaur*,” relative to my letter signed “Clemens,” if he misjudged as well as yourself, never having seen my handwriting before: it in no respect altered the fact. You next assume, that I *retract* my language, which is not true; I simply disavow personal allusion to any one of the four declared editors of *THE VETERINARIAN*, and distinctly state, that I have no desire to disclaim it as applied to the general conduct of the Journal. Again, I am accused of *imputing motives* to you and your colleagues, which is wrong; I may, perhaps, guess at motives, but the assertions I made in that letter have reference only to the facts of the case. The next statement, that *THE VETERINARIAN* is your sole property, will be something new, I imagine, to many of its readers, as it has been to me: seeing the names of three other professional gentlemen preceding your’s on its cover, and considering certain circumstances which have befallen to you since its commencement, I had no reason to “know this full well.” I

had heard that it belonged to the publishers in the Row, and moreover that they desired it should not be an opposition journal; and perhaps my belief in this erroneous statement was confirmed by observing the subservient course it has pursued in regard to College abuses. It is true I have communicated some cases, because it was the only veterinary periodical; but that by no means implies approbation of its principles.

Since you desire to know how long I have entertained a mean opinion of *THE VETERINARIAN*, I beg leave to enclose you part of an uncorrected proof sheet from my pamphlet in 1829, as follows:—

“There is yet one subject to which I must slightly advert: this is the blindness or the duplicity, I know not which, of the Editors of *THE VETERINARIAN*, who ought by this time to know Mr. Coleman better than they seem to do. But they seem willing to laud him highly for having publicly advocated the liberal side, and overlook the outrageous manner in which he has *humbugged* the profession. I can use no term so applicable. Is it possible they are not aware of his double dealing? Why, even the pupils, when they heard of the result of this meeting, exclaimed simultaneously, ‘What—so the old man has beaten, and gained the day at last!’ Can these sapient Editors overlook his former conduct, his tricks, manœuvres, and shuffling; and because he has ostensibly appeared in our favour, say that ‘he *eloquently, zealously, ably, and warmly\** advocated the Petition;’ and, moreover, on their joint responsibility take upon them to return him the ‘thanks’ of the profession for the same! Out upon such expressions! How can they debase us as a body by calling us ‘poor, *humble, disgraced, degraded*, veterinarians?’ and at the same time speak of the man who has made us such, as the ‘*worthy professor*,’ with pages of sermonizing twaddle about ‘*good feeling*,’ his ‘*disposition to assert our rights*, and to ameliorate our condition,’ and their ‘*disposition to receive* with the kindest and best feeling every *conciliatory overture*?’ The object of one of these Editors at least is not dubious. It has always been, as he repeatedly expressed it, to ‘*lure Mr. Coleman*,’ and the ‘*conciliatory overture*’ which he would like to receive means an offer from Mr. C. to introduce him to preach on Dogs and Cattle, and lecture, &c. at the College. So much by way of opening the eyes of veterinary surgeons to Mr. Youatt’s views; and the reason of the softly, kindly terms in which he screens Mr. Coleman.”

As you propose to publish this correspondence, I shall, in fairness, expect the insertion of the above extract in answer to your query, although I suppressed it at the time, partly to make room, and in hope also that the publication might amend. Years have passed away, and the same half measures are persisted in: but the eyes of many in the profession have been upon your Journal; and, although it has met with no direct opposition, still we have not been blind to its culpable deficiencies. On this account I rejoice to see another veterinary periodical, although I have neither part nor share in its management. Unaccustomed, however, as you have been to the wholesome discipline of a rival, and supposing that we, your constant subscribers, were also implicit believers in whatever doctrine you chose to lay down, I can well understand why you are chafed and sore at this rude interruption of the “Centaur.” A more decided course of conduct can alone alter my opinion and that of many others respecting *THE VETERINARIAN*. In your letter to my uncle, Mr. Bracy Clark, you express a willingness now, at the eleventh hour, to bring forward his discoveries and review his works, and excuse some past negligence in this respect by stating that no one likes to undertake the task. I am aware that his doctrines differ so much from those of the College,

\* Will the reader, who has it, kindly refer to the second volume of *THE VETERINARIAN*, page 247, and a few pages before and after?—Y.

and are withal so unanswerable, that silence respecting them, a strict adherence to the stifling system, has been hitherto considered the safest policy; were it not so, there are means of reviewing any work: condemn it if wrong, praise it if deserving, or let extracts speak for themselves if it be difficult to analyze; but, as late events may have shewn, it will no longer serve to affect ignorance or indifference, for both the public and pupils are aware that there is better information without the College-walls than within them.

I am, Sir,

Your obedient servant,

CHARLES CLARK.

PS.—This correspondence is as yet between ourselves, and you can act as you think proper; but if one part is published without the whole, with the exception of this postscript, or any garbled statement of it given, as far as regards myself, I will take prompt measures to rectify the matter. I am not to be bullied or cajoled. For years I have forborne to expose your Journal; and when I conducted the opposition periodical, in the year 1828, you had no reason to complain of its conduct; but there is an end now to the immunity you have hitherto enjoyed. Peace or war are indifferent *to me*.

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46, Grove Street, Camden Town,  
19th December, 1836.

SIR,—In the last number of the “Centaur,” I meet with the following accusation, to which your name is appended: that “there are not a few useful and important discoveries of your’s in the veterinary art which it has been the particular effort of the Veterinary College and their periodical to say as little about as possible, and to conceal and keep from being known, through a miserable petty jealousy, and fear of exposing more conspicuously their own very numerous and flagrant mistakes and blunders. And in noticing your works, they have cunningly, and for purposes of misleading, attached consequence to those deemed by you of but trivial value, in order to keep out of sight the more important ones; the performance of which had been to you a work of long-continued and real labour,—the other but of truly little; in this way misleading people.”

Now, Sir, as to the accusation that THE VETERINARIAN is the hireling of the College—for such must be your meaning if you have any—*it is false, and you know it*. We have both been opponents of the College, and I will tell you the difference between us. I have attacked its abuses of every kind; your opposition has had direct or indirect reference to the neglect of your “not a few useful and important discoveries.” My opposition necessarily led to very considerable pecuniary sacrifice—your’s tended to the sale of your publications. I am not accusing you of being swayed by this calculation, but I am stating the obvious result of our mode of proceeding.

You complain that your “not a few useful and important discoveries” are not acknowledged. I will tell you, Sir, one reason, and a principal reason, for this.—No one likes to review your works. The work on Biting (qu.?) the Horse has been sent to four different persons to be reviewed, and they have successively refused. Its last journey was one of some hundred miles, and it is not yet come home; but it has been

intimated to me that it is coming unreviewed. Why is all this, but because Mr. Clark is not content with a very fair share of reputation and praise to which he is justly entitled, but claims every thing to himself, and is too much master of the vulgar tongue if the slightest of his claims is resisted? No one likes to wrestle with a chimney-sweeper or a baker. You have causelessly and wrongly accused me; and now you must not be offended if I tell you, *and with perfect truth*, a few of *your* faults, and that in particular which makes you unpopular—for so you are in the profession, and even an object of some dislike among those who do full justice to your talents.

You say that I have endeavoured to conceal your discoveries, and prevent them from being known. Now I tell you what I will do, if you “will stand the hazard of the die.” Favour me with a list of these discoveries, and in the order of their importance, and I will publicly, in *THE VETERINARIAN*, take them up in that order. I will throw myself into the thing—I will endeavour to do justice, and indeed I must do it, for the eye of the profession will be upon me; and I will, to the best of my power, render to Cæsar the things that are Cæsar’s. I only bargain that each of those discoveries shall be expressed in as few and plain words as possible, that there may be no mistake or backing out; and if you should think that I am not doing you justice, the pages of *THE VETERINARIAN* shall be freely open to you.

It is time that there should be an end, and there shall be an end, to this disgraceful, blackguard way of writing. No known writer shall insult me with impunity. As to cowardly anonymous scribblers, I leave them to the contempt of every honourable mind, and to the full consciousness of that contempt.

I have the honour to be, Sir,

Your very obedient servant,

W. YOUATT.

To Mr. Bracy Clark.

\* \* \* I shall keep an authenticated copy of this letter.

#### TO CORRESPONDENTS.

Will Mr. C. favour us with those errata, and they shall be inserted immediately, and any prior ones?

Mr. G. We have them in some unopened box, and we will search for them in good earnest.

Will Mr. Youatt’s pupils kindly think of his request in the last number?

Mr. S. shall be attended to.

We are obliged to some correspondents, whose papers shall appear in our next.

The letter from Nimrod did not arrive until after our Number had been sent to press. We return him many thanks: it shall certainly appear in the February number.

# THE VETERINARIAN.

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## ANIMAL PATHOLOGY.

By Mr. YOUATT.

### LECTURE IX (*concluded.*)

#### *The great Spinal Organic, or Tenth Pair of Nerves.*

THESE nerves used to be designated by the title of the *par vagum*, or wandering pair; and they do wander over many an important organ in their course from the medulla oblongata to the solar plexus: but there is another pair of nerves, the pathology of which will soon come under consideration, that pursue a still more devious and erratic path. The French have given to them the name of *pneumo-gastric*, as supplying the lungs and the stomach with nervous influence; but I cannot conceive that this “term is sufficiently descriptive of their destination,” for the functions of the pharynx, and the larynx, and the heart, are also, to a greater or less degree, dependent upon them; and they enter, although not largely, into the composition of that important plexus by which the intestines are enabled to carry on and to complete the work of digestion. In former lectures, I spoke of this nerve as *the cerebro visceral motor one*. I would beg leave to correct this. It is a spinal nerve; or only a cerebral one, as springing from that portion of the spine which is contained within the cranial cavity: it is a nerve of sensation as well as of motion: it is devoted to the functions of organic life: and it has the most important duties to perform of any of the group with which it is connected, therefore I would term it *the great spinal organic nerve*.

*Its Origin and Character.*—It arises from the corpus olivare, immediately posteriorly to the glosso-pharyngeus. The filaments of which it is composed differ in number in different species of animals, and in different animals of the same species. They are placed in the same line, and closely together; they speedily unite, and as they emerge from the cranial cavity their bulk suddenly increases, and they form or pass through a distinct

gangliform enlargement. This at once stamps their character. They proceed, like the glosso-pharyngeus, from that portion of the cord whence spring the motor nerves—they arise in distinct but minute filaments, in a line, like the motor nerves—and ere they quit the cranium they pass through a ganglion. They combine the characters of both nerves; they excite motion, and they convey sensation.

*The Course of the Nerve.*—This nerve, as it quits the dura-mater, lies between the glosso-pharyngeus and the spinal accessory: it is somewhat separated from the former by a portion of the dura-mater, and is contained in the same sheath as the latter. It has scarcely escaped before it communicates with the glosso-pharyngeus, the spinal accessory, and the ganglionic nerves. We shall see that it is slightly connected in function with the second, and most intimately so with the first and last of these.

**THE PHARYNX.**—The communication with the spinal accessory is first formed. The nerve bends itself downwards and inwards, in a direction towards the pharynx; and in pursuing this course, it communicates with or receives a branch from the spinal accessory. It is going to the pharynx, and it seems to be securing the agency and assistance of the muscles to which the spinal accessory goes, for the accomplishment of the function of the pharynx—that of deglutition. We easily recognize the action of the trapezius in the forcible effort to swallow, and more particularly in sheep and cattle. Proceeding onwards, and near the pharynx, it anastomoses with—two or three, some say; I would rather state with—many minute branches from the glosso-pharyngeus, from the superior laryngeal nerve to be presently described, and from the ganglionic nerve, and they form that plexus behind the middle constrictor muscle on which the action of the pharynx mainly depends, and from which fibrils are distributed to the remainder of the constrictor apparatus of this part—the stylo, and the palato-pharyngei muscles, which are under the influence of the glosso-pharyngeus, having previously dilated it. In order to secure the right performance of the act of deglutition, branches are received from a nerve of voluntary power—the lingual nerve. They are particularly distributed to the stylo-pharyngeus, and to the constrictor pharyngeus superior. The act of deglutition thus becomes in some measure dependent on the will, and the more forcible action of certain muscles is thus secured; and, before the will has power over them, they are called into action by the excito-motory power of the great spinal organic nerve.

In another way the act of deglutition is under the influence of

a voluntary nerve. If the lingual nerve is divided, all the motions of the tongue connected with deglutition cease, and the food placed on the dorsum of it will remain there, in spite of every effort of the muscles of the pharynx ; but by this excito-motory power, wisely and kindly given to the more important nerves of organic life, the voluntary muscles of the tongue were summoned to the assistance of the organic ones of the pharynx, before the will had any influence over them ; and they still continue to act, not in defiance of the will, but independent of its commands.

Let it also be recollected that these branches of the great spinal organic nerve are beginning to discharge here, what they do more perfectly in other parts, the functions of a sensitive as well as a motor nerve. They preside over the organic sensibility of the mucous membranes, as much as over the action of the various muscles, and there are sufficient anastomoses very soon to connect with these the sensibilities of animal life also. These are considerations of which the student should have a clear conception. The sensibilities of the organic nerves is the capability of receiving impression from the various substances, solids, fluids, and even the minutest molecules which come in contact with them ;—it is the principle of *irritability*. The different organs re-act upon these agents or substances, and arrest them, and work upon them, and transform them, as the purposes of life may require—this is the operation of the principle of *contractility* ; but no knowledge of the impression or the re-action is conveyed to the sensorium. It is conveyed to certain masses or ganglions, which preside over these acts of organic life, and direct them to useful purposes, and have the power, if need be, of calling to their aid the assistance of other nerves connected with the will. But we must proceed.

*The superior Laryngeal Nerve.*—At a very short distance from the pharyngeal branch, another is sent off, which takes its course behind the carotid artery, and in front of the lower extremity of the superior cervical ganglion. It communicates with this ganglion, for the purpose of carrying its secretive and nutritive influence to the important part to which it is directed. It communicates also with a branch of the lingual nerve, connecting with the functions of the larynx the action of the tongue, both voluntary and by means of the excito-motory system, and without the command of the will. As this branch pursues its course, it passes over one of the pharyngeal muscles, thus connecting—and a most important connexion it is—the functions of the pharynx with that of the larynx. We see the advantage of this in the voice of those animals in whom it is capable of much varied intona-

tion, and in all of them the act of deglutition is more easily and safely performed.

The superior laryngeal branches are prominent in your dissections, and cannot fail of being recognized. These nerves soon divide into an external and internal branch, and having reached the side of the larynx, ramify on the muscles concerned in the construction of the larynx, and also on the posterior pharyngeal constrictor compelling it to assume at the same time the same action: they likewise visit the thyroïd gland for some purpose unknown. The internal branch passes through an aperture in the membrane connecting the thyroïd cartilage and the hyöid bone, and then separates into numerous fibres, taking opposite directions upwards and downwards. The former go to the epiglottis and the pharyngeal membrane, still more connecting the pharynx and the larynx in the discharge of one common function; the ascending branch supplies the mucous membranes about the arytenoid cartilages and the rimæ glottidis, and gives filaments to the constrictor muscles, and, within the mucous membrane, there are anastomoses with the inferior laryngeal—the recurrent nerve—the nerve which governs the expansion of the larynx; thus establishing a useful and beautiful harmony between the apparently opposing powers that regulate the working of this exquisitely constructed machine:—but more of this hereafter.

*The Cervical Plexus.*—As we proceed down the neck, we find several filaments from this nerve given to the cervical plexus. This plexus is composed of communications from the four first cervical nerves with each other, and with the great sympathetic; and these compound branches again interlacing and forming an intricate but powerful plexus of nervous influence. It extends, from some of the muscles even of the face, to those of the scapula and the anterior portion of the chest. Beginning to see, as we do already, the connexion of the great spinal organic with the functions of respiration and circulation and digestion, we perceive at once the importance of an anastomosis like this, by means of which almost every important muscle in the region of the frame is rendered occasionally subservient to the principle of organic life. They all involuntarily assist in the common discharge of the three important functions just mentioned; and in cases of necessity they are available to almost any extent that can be desired. As an excito-motory nerve, how valuable is the influence of the great spinal organic on a plexus like the cervical; presiding over some part of it, influencing the rest, and preserving the sympathy so necessary between the different parts of the organic system!

*Branches to the internal Carotid.*—It is in this upper part of its course that the great spinal organic begins to display its connexion with the circulatory system. At the bifurcation of the carotid artery, and mostly connected with the internal carotid, we find numerous branches—a plexus of filaments—from this nerve. We are not yet justified in forming any decisive conclusion as to the intention of this nervous distribution; but one thing we do know,—that the arteries possess a muscular tunic of great power, and on which depends, to a considerable extent, and at a distance from the heart, almost entirely, the natural and the morbid circulation of the blood within them; that from no other source, except in the most circuitous and indirect way, can we trace any nervous filaments to the arteries, that do not proceed from this or the ganglionic nerve. When we find this organic motor nerve—the motor one, *par excellence*, almost at its origin—so plentifully distributing its filaments on the carotid, and especially on the interior carotid—the artery of the brain—the vessel through which it is so necessary, for the discharge of the functions of the brain, that the blood should flow in an equable stream, and to prevent the disturbance of which there are such beautiful provisions in the bony structure of certain parts of the cranium, and the strange tortuosity of the course of the vessels—when, I say, we reflect on all these coincidences, we cannot help suspecting—I will not use a stronger word at present—that this great spinal organic nerve is much concerned in regulating the circulation of the blood through its devious path. We shall have stronger proof of it immediately.

*The Connexion between the two great Organic Nerves.*—We pursue the course of this nerve down the neck, in the same sheath with the ganglionic nerve, and in company with the carotid artery. For a considerable way there are no branches given to the neighbouring parts, for there are few that are necessary to, or that can be well employed in, the purposes of organic life; but there are almost innumerable filaments of communication between this nerve and the ganglionic one, not, perhaps, so much taken into consideration as they deserve to be, but evidently allying the two nerves together for one common purpose, although certainly not rendering them precisely identical; and preparing them, by the mutual interchange of influence, for the important functions which they are about to discharge.

*The cardiac Branches.*—When this nerve is approaching to the thorax it gives off a branch on either side, larger and more complicated on the right side than on the left; and these pursue their course to the origin of the great bloodvessels, and unite with and help to compose the *cardiac plexus*, between the arch

of the aorta, and the bifurcation of the trachea. It is the source whence the heart derives the nervous influence that is bestowed upon it—it is the little brain of the heart. It is composed of the superior cardiac nerves on either side, derived from the superior cervical ganglion, and united to the cardiac branches of the great spinal organic as soon as they are given off. It also communicates with the recurrent nerve. The middle cardiac nerve, and the inferior one likewise, unite in the formation of this plexus or ganglion. This ganglion is an interesting object to the young anatomist, from its evidently being the centre whence proceeds all nervous influence to the heart. The nerves are beautifully traced from above: they enter into this expanded and pearl-coloured ganglion; the plexus which they form is at first easily traced; it is then lost in the substance of the ganglion. Once more they assume their distinct corded form; they escape from the lower part of the ganglion, and pursue their appointed courses. Some take a retrograde path to the pulmonary plexus; others spread themselves over the aorta, and penetrate the coats of that vessel: but the greater portion taking the direction of the coronary arteries, expand over every part of the heart, and, entering deeply into its muscular structure, finally spread themselves over the lining membrane of its cavities.

*The Cause of the Heart's Action.*—What is the influence which this ganglion, with its peculiarly complicated structure, has on the action of the heart? It is of complicated structure, for it is made up of branches derived from the great organic nerve, the ganglionic nerve, and the cerebro-spinal nerves, through the medium principally of the cervical plexus. The experiments that have been made by Braschet and others are very interesting, and, to a certain extent, satisfactory. The great spinal organic nerve was divided above the origin of the cardiac branches, proper precautions being taken to prevent suffocation. There was immediate and very considerable disturbance of the action of the heart; but in the course of an hour the animal was perfectly tranquil, and the heart beat regularly. The first disturbance was a sympathetic effect—it was the consequence of pain; and the pain subsiding, the regularity of the circulation returned: a sufficient proof that the influence of this nerve was not necessary to the pulsation of the heart. To advert for a moment to other supposed sources of nervous influence:—the brain was entirely removed, but the heart beat on: the head was severed from the body, and, until all the blood had escaped, the heart continued to pulsate: the whole of the spinal marrow was destroyed—children have been born without the spinal marrow—and the heart has discharged its duty.

The cardiac plexus that has been just described has been cut through, and the heart has at once ceased to beat—the animal has died before the complete section of the plexus could be accomplished. This would seem to designate the cardiac plexus as the source of motor power in this great viscus; but this conclusion would be erroneous. I destroy an animal—I take out its heart as quickly as I can—I cut through it transversely, and I perceive the alternate contraction and dilatation of both the auricles and ventricles for a certain time. I take the heart of another animal that has just been killed, and, while it is yet beating, I place it in warm water, and the pulsations are quickened, and continue during some minutes, gradually becoming weaker and slower, and at length ceasing, but still renewable for a time on the application of warmer water. In dividing the cardiac plexus I had given a shock to the whole system, which destroyed life at once. A blow in the neighbourhood of the great solar plexus would produce the same effect. Then what influence does the great spinal organic nerve exert, or what influence do other nerves exert on the heart? Much, and of a very important nature. The great spinal nerve gives intelligence of every change that is taking place with regard to the organic movements, and the organic sensibility, of many of the most important viscera: the ganglionic nerve tells of the healthy or morbid state of the secretory or nutritive or absorbent system; and by means of the spino-cerebral nerves, the pulse is filled and strengthened by hope and joy—it is depressed and rendered tremulous by sorrow or despair, and the heart responds to every emotion of the mind. What an interesting and fruitful field of pathological investigation is opened here: but we must not enter upon it until the relations of the ganglionic nerve have been duly considered.

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## ON SPAVINS AND SPLENTS.

*By* NIMROD.

I HAVE been amused with the conflicting evidence of the “Profession,” in the case of Mr. Elmore’s horse; almost as amusing as the twelve certificates of their brethren in Paris, respecting the broken-winded mare, in your number of February last. If worth having, the following is my own experience of spavins and splents:—

First, A well bred horse, that was upwards of ten years in my father’s stables, ridden for all purposes; amongst others, by

my brother and myself, with hounds. He had two large bone-spavins, but *was never lame*. He was a bad fencer, which the wiseacres attributed to his spavins.

Second, A Jupiter horse, which I sold to Mr. Letchmere Charlton for 200 guineas. He had two large spavins, but *was never lame*.

Third, A hack, fell dead lame all at once. A spavin, the size of a hazel-nut, had been thrown out, which was removed by one strong blister. It was just on the joint.

Fourth, A grey horse, sold to Sir Edmund Antrobus, at Tattersall's, for 150 guineas. On leaving the yard, Mr. Tattersall saw him, and said to me, "You have warranted this horse, and he has two spavins." I replied, he had; but that I had ridden him two seasons and a half, and he had never been lame. Neither was he ever lame from that cause; and Sir Edmund had his picture taken.

Fifth, A horse called Turnpike, sold by me to the late Mr. Mytton for 150 guineas, had a spavin on the near hinder leg, *but was never lame*. I have a letter now in my possession from Mr. Mytton, confirming this fact. I purchased this horse for 80 guineas, from a Mr. Drake, near Worcester, contrary to the advice of Mr. Palfrey, who fired him for the largest ring-bone on his near fore leg that I ever saw on any horse; but it never hurt him. He was called Turnpike from having leaped the toll-gate on the London road out of Worcester.

Sixth, Four years ago I bought a five-years old horse, at Calais, from Mr. Berkley Bond, who was shot in a duel at Boulogne, a few days afterwards. He had a spavin on the near leg, but his action with his hinder legs was remarkably strong and good. I sold him to a French Colonel of Dragoons, and heard of him two years since, being still in his possession, and sound.

So much for my experience of spavins. From splents I have suffered very little. I never remember but one horse out of work from that cause. A gray horse lost his action all at once, and I feared he was injured in the feet, although, to appearance, they were perfect. At length, the late Mr. Samuel Palfrey, of Worcester, detected two *very small* splents, directly under the knees, which were at once removed, and I sold him for 220 guineas. This horse will be recollected by Warwickshire sportsmen; he belonged originally to Mr. Beilby Thompson, brother to Sir Francis Lawley, and was one of the neatest and best horses in the hunt.

It is my opinion—but I offer it with deference—that bony excrescences, such as spavins and splents, cannot be termed dis-

seases, although they may be the cause of them when interfering with acting parts. When separate from them, which veterinary science can always detect, I would not refuse a good hunter merely because an excrescence, generated of the same matter with the bone itself, had grown out, and which, in the case of splents, is so often absorbed—proved by the fact of old horses being seldom seen to have them.

Calais, Dec. 22d, 1836.

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## AIR IN THE HEART OF A HORSE.

*By Mr. PERCIVALL, M.R.C.S., V.S. 1st Life Guards.*

My dear Youatt,

SINCE some allusions have been made in public, and some inuendoes thrown out in private, at me, touching the management of THE VETERINARIAN, it may be as well for me thus publicly to state, in confirmation of what has already appeared from you, that for some years past I have ceased to take any part whatever in the management, or participate in the proprietorship, of the Journal. Indeed, as you full well know, and as I ought to be ashamed to confess, my contributions to it for this year or two past have been too scarce and insignificant even to claim a right to have my name inserted in the list of "Collaborateurs." However, I hope to amend my manners, and to still contribute my occasional mite to the science I am getting my living by; and, as some sort of earnest thereof, I send you the following account of what, to me, is an occurrence perfectly novel.

A horse, three years old, was taken ill after the ordinary mode in which a febrile catarrhal attack commences: he was off his feed; dull and dejected; and his pulse was increased to about 55. He took three drachms of aloes, lived upon a bran diet, and was kept quiet in his stall. The day following he was removed from his stable into a box; but nothing farther was done, the medicine appearing to be about acting on the bowels. The morning of the third day he purged. Water-gruel was now substituted for water for his drink. He ate his hay, and appeared to be doing well. His pulse continued between 55 and 60, but was grown so feeble at the jaw, that more than ordinary attention was required to perceive the pulsations of the artery. I saw him alive, for the last time, at one o'clock on this, the third day. At five o'clock P.M. he had drunk a pailful of his gruel, and still appeared going on well. At half-past eight P.M. he was found

dead in his box; having, from the position of the carcass, evidently fallen quite suddenly, and, as it would seem, died without a struggle.

Being fully prepared to meet with some post-mortem appearance out of the common way, more than usual pains were taken in opening the body. The sternum was carefully removed by sawing through the cartilages of the ribs, without cutting into or disarranging the pericardiac membranes. No sooner was the pericardiac case opened, than out protruded the heart, with very unusual force; it appearing as if the bag containing it were too small for it, and it were pressing for liberation. Denuded of its bracing membrane, the heart appeared—the right ventricle in particular, which now lay uppermost—enormously distended; and the tumefaction conveyed to the pressure of the fingers the sense of fluctuation, from which I myself—as well as Dr. C—who was present at the examination—opined that either fluid blood or air must be within. I cut into the ventricle transversely, near its apex, with a scalpel; and to my surprise a quantity of air burst forth, the parietes of the cavity instantly collapsing after the manner that a gas-distended stomach or bladder would have done; and what adds to this similitude is, that the gaseous emission assailed the nose with just such another odour as ordinarily proceeds from an opened bowel. The discharge of the air was succeeded by a copious efflux of semi-fluid, grumous, ill-conditioned blood, which, as it flowed, bubbled and frothed as though air had been mixed up with it. The walls of the ventricle itself were unusually thin, apparently owing to the dilatation they had undergone; while those of the left ventricle were in altogether an opposite state—one of extraordinary contraction and density, even almost to the annihilation of its cavity. The auricles both contained blood; but there was this difference between them—that within the left the coagulum was unusually small, firm, and tough; while the blood in the right was very laxly or imperfectly coagulated. The coagula within the pulmonary veins were perfect; but in their texture soft and easily lacerable, and black in colour. The right lung was dark-coloured, and in places exhibited incipient hepatization; the left was in a perfectly sound condition.

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## EXPERIMENTS ON NITRE.

By Mr. CUPISS, Diss, Norfolk.

To the Editor of "The Veterinarian."

Sir,—IN your VETERINARIAN for September last, I read with considerable interest M. Saussol's account of poisoning lambs by the efflorescent nitrate of potash, licked from the wall of their sheep-cot, as also your observations, "made in order to elicit the opinion and practice of others;" for I perfectly coincide with you, that it is only by the inter-communication of experience that the advancement of our profession can be attained. As my opinion of the effects of nitre differed materially from many circumstances noticed by you, I resolved to persist in the investigation, and, if possible, arrive at some correct conclusions respecting its medicinal effects upon the horse, in continuance of my experiments on poisons and supposed poisons, before published in the *Veterinary Recorder*\*.

Nitrate of potash, or saltpetre, is well known as an article of commerce, and of domestic use; it is a neutral salt, formed by the combination of nitric acid and potash.

On the human subject its effects are refrigerant and diaphoretic. In repeated small doses it diminishes arterial action, and increases the secretion of urine. Externally applied, it is cooling and detergent. In large doses, though sometimes comparatively harmless, it generally occasions death, attended with coldness of the extremities, and the most excruciating pains of the chest and stomach. Orfila relates three fatal cases of this kind, from which, and several experiments made by himself upon dogs, he concludes,—

1st, That the nitrate of potash introduced into the stomach of dogs and men, acts in the same manner as acrid or corrosive poisons.

2d, That it is capable of producing death when it is not vomited, and has been swallowed in the dose of two or three drachms.

3d, That it appears to act immediately on the mucous texture of the digestive canal, and subsequently on the nervous system, after the manner of stupefying poisons.

4th, That it is not absorbed when applied to the cellular texture, and consequently that it is confined, in this case, to the production of local effects.

\* It was no feeling of disrespect to the Editors of this Journal which induced me to publish my former experiments in the *Veterinary Recorder*, but a personal intimacy with the proprietors of that publication.

5th, That we cannot admit the opinion of M. Tourtelle, that this substance acts like the other neutral salts.

With the view of witnessing some satisfactory and decisive effects of nitre, I determined upon the following experiments:—

*Experiment I.*

Upon a full-sized cart horse, naturally of strong constitution, but aged, and very low in condition; pulse at the commencement of the experiment 36.

*Nov. 16th, 17th, and 18th.*—Gave every day two doses of nitre, one ounce each, in a bran mash, the first at 8 o'clock A.M., and the second at 3 o'clock P.M.; during these three days the pulse varied from 34 to 38. On the evening of the second, its effects were diuretic and laxative: these increased on the third day, accompanied with long and continued rumbling of the intestines.

*19th, 20th, and 21st.*—Gave two doses of four ounces each, at the same time and in the same manner as before. On the first day the diuretic effect ceased, and afterwards no unnatural appearances were discernible: pulse standing at 36, and regular.

*22d, 23d, and 24th.*—Gave two doses of two ounces each. On the first evening his pulse rose to 38, with some appearances of pain, much fluid following the fæces, though not purging: diuretic effect recommenced. On the second day the pulse was 40; and on the third all unnatural appearances vanished; pulse remaining 40.

*25th.*—Gave eight ounces morning and afternoon: in the evening his pulse rose to 60, and he appeared uneasy.

*26th, 8 o'clock A.M.*—Gave eight ounces of nitre; pulse 40, irregular and weak. 12 o'clock, pulse 60; breathing quickened. 3 o'clock P.M., gave another dose of eight ounces. 8 o'clock, pulse 66, rather full. 10 o'clock, pulse 76, weak and irregular; glancing at the flank, and other expressions of pain: had been diuretic throughout the day.

*27th, 8 o'clock A.M.*—Pulse 45, and regular. Gave eight ounces of nitre. 11 o'clock, pulse 52; 12 o'clock, pulse 48; 3 o'clock P.M., gave eight ounces, pulse 48; 5 o'clock, pulse 44; 10 o'clock, pulse 50, and no appearances of pain or disease.

Thinking it probable that the effect of this drug might, in some measure, be mitigated by its admixture with the bran, I resolved to fast him fourteen hours, and give his daily dose of one pound at once, in solution; and that his stomach might be perfectly empty, I had his box cleared of both food and litter.

*28th, 8 o'clock, A.M.*—After fasting fourteen hours, gave one pound of nitre, dissolved; pulse 36. 10 o'clock, gave him a bran mash, of which he ate very little. 12 o'clock, pulse the same; breathing much quickened: he appears uneasy, languid,

and weak. 1 o'clock, pulse 52; quickness of breathing continues. 2 o'clock, pulse 56, weak, and breathing more laboured. 3 o'clock, pulse 68, with great prostration of strength, and symptoms of pain. 4 o'clock, pulse 84, and more uneasy. 5 o'clock, he lay down, struggled violently, with loud groans; anxious glances at the flank, and other appearances of excessive pain. 6 o'clock, after violent and long-continued exertions to rise, he succeeded, though in a very weak condition, and perspiring profusely; pulse 100. 7 o'clock, pulse 100, very hard and full: the perspiration increases: he has voided urine copiously (the first time since 7 o'clock A.M.), which greatly relieved him. 8 o'clock, pulse 90, more regular, breathing less laboured, and altogether appears better. 9 and 10 o'clock, pulse 80, more regular; the perspiration has subsided; he is eating with an appetite, and the effects of the nitre appear much abated.

29th, 6 o'clock, A.M.—Very sluggish, with much perspiration. He has eaten but little during the night; breathing still continues laboured; pulse 80, and very thumping. 8 o'clock, pulse 76; he is feeding, and in less pain. 11 o'clock, pulse 62. 2 o'clock, P.M., pulse 55, and feeble. 10 o'clock, pulse 50, exceedingly feeble and irregular.

30th, 8 o'clock, A.M.—Pulse 50; his appetite is restored, with every prospect of a speedy recovery: feeling satisfied that all important symptoms resulting from the nitre had subsided, and that further perseverance in this subject was unnecessary, I had him destroyed at 10 o'clock A.M.

#### *Post-mortem Examination.*

The appearance of the abdomen was healthy.

The stomach, which I opened along the large curvature, shewed several dark patches, situated about three inches from the pyloric orifice, and extending over nearly half the villous coat. These, five in number, had for their centre black spots as of chronic affection, which diverged into larger patches, less inflamed: the stomach throughout was flushed and much thickened, especially at these patches, which, when cut through, presented a deposit of serum. A small portion of the cuticular coat, adjoining one of the patches on the villous portion, was very much affected, even to its destruction. This appeared like the long-standing effects of some of the mineral poisons, or of chronic disease in a state of reparation\*, but harrowed up afresh by some recent agent. Around the pylorus, the stomach was not at all affected.

\* I am of opinion that horses are more subject to diseases of the stomach than is generally supposed, having witnessed some very singular cases, upon which I may, perhaps, make some remarks when future opportunity offers.

The small intestines were slightly flushed, from about mid-way of the jejunum to their termination.

The large intestines were healthy, with the exception of slight inflammation of the mucous coat at the curve of the colon.

The liver was unusually small, but healthy.

The kidneys and ureters were healthy.

The neck of the bladder was streaked with inflammation, and its mucous coat thickened, though this might probably arise from age; otherwise it was healthy.

The heart was healthy.

The lungs were slightly congested with blood.

Thinking that the inflammation of the stomach was principally an old affection roused by the action of the nitre, I determined on trying its effects upon an ass.

### *Experiment II.*

*December 1st, 2d, and 3d.*—Gave to an ass, every day, two doses of nitre, of an ounce each, in a bran mash, morning and afternoon. Pulse at the commencement of the experiment 48, and natural; they continued the same during these three days, with a diuretic effect on the last day.

*4th, 5th, and 6th.*—Gave every day two doses of two ounces each: the diuretic effect ceased, the pulse being 52, and regular, during these days.

*7th, 9 o'clock, A.M.*—Mixed four ounces in a bran mash, which he refused to eat.

*8th, 9 o'clock, A.M.*—Pulse 50: gave four ounces in solution. 10 o'clock, voided urine copiously, and appeared as usual. Being very much engaged, I had not taken his pulse since giving the dose; and to my astonishment, about 1 o'clock I found him struggling violently, and saw him expire.

### *Post-mortem Examination..*

The abdomen when opened was healthy.

**Stomach** Perceiving that the principal injury done to that of the horse was confined to a particular part of the villous coat, I made an incision of about four inches along the large curvature, near the œsophagus, and turned it inside out. The cuticular coat was more flushed than in the horse, and in some parts shewed greater vascularity. The villous coat lining the large curvature was highly inflamed to more than one-third of its extent, and thickly interspersed with darker spots, at which the coat was nearly destroyed: the other parts of the stomach were but slightly thickened, and little more vascular than is natural. The pylorus was not at all affected.

The small intestines were flushed through their whole length, but most in the duodenum.

The cæcum exhibited towards its apex two or three patches of a deep red colour ; though the large intestines generally were but slightly affected.

The liver was scirrhus.

The kidneys, ureters, and bladder, were in a healthy state.

The lungs and heart were congested with blood: the *left* ventricle contained a considerable quantity of black coagulated blood, otherwise it was healthy.

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The following experiment was made fourteen years since, when the medicinal effect of nitre was the subject of much discussion ; but not having any minutes of the case, I shall not be able to describe it so accurately as it requires:—To a common sized hack-horse I gave two pounds of nitre in solution, about 11 o'clock, A.M. In the afternoon, a powerful diuretic effect commenced, which continued increasing until the following morning, when he shewed evident symptoms of pain in the kidneys, by stretching out his fore feet, and a cringing motion of the loins. These continued until the evening, when they began to subside ; and after the third day nothing indicative of disease was observable. For some weeks afterwards this horse remained under my observation, and in perfect health.

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My object in proportioning the doses of nitre (in Experiments Nos. 1 and 2) was, first, to observe its medicinal effect, and then, by continually increasing the quantity, to ascertain how much was necessary to destroy life. By giving it at 8 o'clock A.M., and at 3 o'clock, P.M., I had an opportunity of observing the operation of both doses during the day. In the first six days of Experiment No. 1, and when the horse had taken eighteen ounces, its effects are not deserving of comment : the next three days, when he had taken forty-two ounces, his pulse only rose to 40: the next day, the first of those on which he took two doses of eight ounces each, his pulse rose to 60 four hours after the first dose, and in seven hours after the second dose to 76: the following morning they fell to 45, and did not again, during the three days, rise higher than 52: the third day they were 50, and all unnatural appearances had nearly vanished.

The action of the pound in solution, as of the other large doses, appeared to abate after about twelve hours: the diuretic effect did not increase in proportion to the quantity ; but, when continued in large doses, it seems to act in such manner as to produce retention of urine by constriction of the sphincter of the

bladder, as appeared from the relief afforded almost immediately after voiding urine (*vide Nov. 28th*).

The effect on the pulse of the ass was trifling, though his death was sudden and singular. From the appearance of the left ventricle, I should infer that there was a total cessation of the action of the heart; and this inference is strengthened by the state of the horse's pulse four hours after giving the pound: it was then so feeble as scarcely to be felt or even heard, attended with very great prostration of strength.

The post-mortem appearances differed materially from those of the lambs described by M. Saussol, and of the horse by Mr. Hayes, of Rochdale: in the first two experiments neither the bladder nor intestines were seriously affected; the principal injury was confined to the villous coat of the stomach, though in the cæcum of the ass there were two or three inflammatory patches, similar (yet in a much slighter degree, and not approaching ecchymosis) to those noticed by yourself in fatal cases of influenza, which you suspect may have been occasioned by the too free use of nitre.

The manner of administering this medicine considerably modifies its action; for instance, so long as I continued giving the horse a pound per diem, in bran mashes and divided doses, the symptoms produced were comparatively slight; but when a pound was given him in solution, after fasting several hours, its effects were more decisive, and its power over the system much greater. As a medicine of internal use, I can say but little in its favour; for in small doses it appears of trifling service, and in large ones it passes off, to a great extent, as the other neutral salts do, by increasing the secretion of the mucous coat of the intestines. Throughout these experiments, I observed no effect which might not be obtained by other drugs of less cost, whose action may be more depended upon, and of whose operation we might avail ourselves in a much shorter time; though as an external refrigerant I highly value it.

The remarks on the effects of nitre upon the human subject, with Orfila's conclusions, noticed in the beginning of this article, will enable the reader to draw his own inferences upon its *comparative* effects.

I hope these experiments may meet the eye of those who are accustomed to prescribe one, two, or three drachms of nitre per day in a ball; for if it may be given in continued small doses, and increased as described above, till not less than six pounds ten ounces have been taken by one horse in thirteen days, and two pounds by another at a single dose, with so trifling effect in the first instance, and without producing death in the last, will it not be well to resort to some more effective agent?

## ON WOOD-EVIL AND MOOR-ILL.

By Mr. MAYER, Jun., Newcastle-under-Lyne.

MR. COX having thought fit to make a few remarks, in your December number, in reply to myself and Mr. Surginon, on Wood-evil and Moor-ill, and illustrated his remarks by "a practical fact or two," I feel called upon to make a few observations in support and in explanation of what, in a former number of THE VETERINARIAN, I advanced.

It will be recollected that Mr. Cox, in his first paper, stated that he had "been on the look-out for some time for a distinction" "between wood-evil and moor-ill; and because no proper one had been given by any writer, he offered a few remarks as to the causes, symptoms, &c." In reply to his observations, I stated that I believed it to be one and the same disease; and I rejoice that my statement was borne out by the experience of Mr. Surginon, who distinctly states, "that whether the disease (that is wood-evil or moor-ill) occurs on the moor or in the meadow, or elsewhere, it is essentially the same in its symptoms and progress."

This testimony, supported as I shewed it to be by our modern writers on cattle medicine, Mr. Cox has not thought fit directly to dispute; but has (as will be shewn in another part of this letter) separated, and seeks for a distinction between these two diseases. Not satisfied with this, he has made it appear that I separated the two, in the following passage. "Mr. Mayer, in stating the causes of what *he calls moor-ill*, enumerates, &c." "they, or some of them, may be concerned in the production of wood-evil or other complaints incident to cattle; but they cannot *always* be adduced as the cause of moor-ill." What did I call moor-ill? Did I not call it one and the same disease as wood-evil? And was not this testimony borne out in the next page by Mr. Surginon? And after enumerating various causes which Mr. Cox says I gave to moor-ill, did I not say, that cold, united with any of these agents, occasions the same disease (considering them one and the same) and "*produces* that affection of the joints *long known* by the term moor-ill." I distinctly deny that I in this or any other passage of my letter separated the two diseases, so as to give Mr. Cox any authority for saying I called it moor-ill.

Mr. Cox has, however, led us to believe, from his further observations, that there is a distinction between wood-evil and moor-ill. I will not enter, however, on this subject at present, but direct your attention, for a few moments, to a query or two

that Mr. Cox has put to me. In the early part of his last communication he thus writes:—"If Mr. Mayer will again look over my communication, he will find that I merely stated the opinion of various farmers as to the complaint which *I call moor-ill.*" I have looked over Mr. Cox's statement again, and after the opinion of the farmers as to the *causes*, he proceeds to the *symptoms*, which, as there was no *notice to the contrary*, I presumed he gave as *his own practical experience*. Upon the *symptoms given* I argued, if Mr. Cox will again refer to my letter, that he had not given the *symptoms* of moor-ill; and from his describing the joints and limbs to be so much affected, I, in the *absence of further information*, considered it a rheumatic affection. Mr. Cox next goes on to ask, whether, out of "fifty-two cases of this disease which I have seen this year, both in the commencement and the advanced stages of it, I should not have observed the swelled joints and other symptoms of that complaint described by Mr. Youatt in his work on Cattle, and by other writers of minor authority, if it had, in truth, been a kind of rheumatism, whether chronic or acute." In reply to this question, I should observe, first, that out of fifty-two cases of real moor-ill or wood-evil, Mr. Cox must have observed that the pulse *was affected*, and likewise the appetite; that the milk *was diminished*, and that the bowels *were constipated*. If he did not, but only observed a "*kind of grunting, succeeded by a stiffness of the limbs and body,*" and "*mostly of the fore extremities and thorax,*" I again assert, that I consider *such symptoms* to indicate that the affection was a rheumatic one; the effect of *cold*, and the result of being turned out on a cold wet soil, and perfectly distinct from moor-ill or wood-evil. Secondly, that we *may* have a rheumatic affection of the limbs without any *swelling of them* or the joints.

Although it has been proved from quotations\* from our modern writers on cattle medicine, that moor-ill and wood-evil were one and the same disease; they agreeing (to use Mr. Cox's words) with the opinions of "our fathers," who, "in the twilight of science indiscriminately called wood-evil, moor-ill, and pantas, one and the same disease;" and although the attempt to draw a distinction between them, Mr. Surginson declared to be an error of no small magnitude, Mr. Cox has, in the latter part of his letter, with its corrected portion, determined upon separating them, and having, if he can, a distinction: to this end he seeks "the aid of any well-informed practitioner." Wood-evil he "takes to be a constipation of the maniplus;" and moor-ill, I hardly know what he takes it to be. The general features of

\* See my letter in November, in answer to Mr. Cox's first letter.

the disease, with the symptoms he has given us, are at variance with what has generally been considered as moor-ill or wood-evil. Post-mortem appearances he has given us none ; though we are led to suppose that he has had ample opportunities of seeing them. He declares it to be distinct from rheumatism, and unattended by any constipation or inflammation of an intense character. He denies the truth of certain causes producing a disease the causes of which he does not know himself. He finally solicits "the aid of any well-informed practitioner" to draw a distinction, &c. between diseases which every well-informed practitioner would tell him does not exist. These and many other contradictory statements I leave to Mr. Cox's *practical experience* to reconcile, and to draw that distinction which he so ardently desires. I do not wish to call his experience into question ; but this I will say, that he has failed to support by any practical facts those opinions which he promulgated in his former letter.

I think I may, with more propriety than Mr. Cox asks me "whether the chilling wind of September and October, exchanged for the warm weather of June, July, and August, will cure a kind of rheumatism by a mere change of herbage, but neither of soil nor of climate?" ask him, Whether it will cure what he calls moor-ill or wood-evil ?

If Mr. Cox will watch more narrowly the probable causes and symptoms of this disease, he will be convinced of its being one and the same ; that, from whatever cause or causes this or that individual may suggest it to arise, he will be satisfied that any thing that produces obstruction and derangement of the digestive organs, that affects the skin or lining membrane of the nose, trachea, and lungs, may and will produce it ; and by a careful attention to the climate, soil, food, and water, he will often be able to act upon that well-known axiom "take away the cause, and the effects will cease."

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## EXTIRPATION OF TUMOURS ON THE SHOULDERS.

*By Mr. W. C. SPOONER, Southampton.*

SOME months since, a bay cart mare, belonging to Mr. Smith, of this town, that for some years had been accustomed to work in a road waggon, was at length rendered useless, in consequence of four extensive subcutaneous enlargements on the shoulders, produced by repeated bruises from the collar, the mare being a free worker. In consequence of these enlarge-

ments, no collar could be made by which the shoulders could be eased, and there were now four large hideous-looking galls, each two inches at least in diameter.

I determined on using the knife freely, and excising the whole. The mare was accordingly thrown; incisions were passed between the sound and the unsound skin, and the latter dissected back as far as the semi-cartilaginous substance that formed the swelling extended, which was then completely removed from the muscles of the shoulder, to which, as well as to the skin, it closely adhered. The operation was long and bloody, being repeated on each of the four enlargements, taking care to carry the incision some little way above and below into the sound skin, in order that the wounds should be as little circular as possible.

A few sutures were made use of, to connect the parts in some degree together; but the shoulders presented a very ghastly appearance, and the tumours weighed upwards of two pounds. The wounds were afterwards occasionally dressed with some astringent powder; and in the course of six weeks, or less, a few cicatrizing seams could only be perceived to mark the situation of this formidable-looking operation; so rapidly and so effectually had Nature performed her part in healing up this extensive lesion. The value of the mare was increased from 40s. to £17 in consequence of the operation.

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## ON INFLUENZA.

*By Mr. CHEETHAM.*

*To the Editor of "The Veterinarian."*

Dear Sir,—FROM the report given in the last VETERINARIAN of the treatment I recommended in Influenza, at the meeting of the Veterinary Medical Association on the 22d of November, and more especially from what it is reported that you stated at the next meeting, at which I was not present, I find I must either have been misunderstood, or had not described what I recommended with that clearness which I ought to have done. You represent me, in your speech, as giving "eight ounces of the spirit of nitrous ether, and the same quantity of the carbonate of ammonia, and six ounces of nitre, and, occasionally, half a gallon of porter, in the course of four-and-twenty hours." This is not the

fact, even according to your own report of my speech, for there you merely make me say, "he has given as much as half a pound each of the nitrous ether and carbonate of ammonia in the space of twenty-four hours."

What I stated, or meant to convey, was, that I had, in some cases, given to the extent of  $\text{℥viiij}$  of nitrous ether,  $\text{℥iiij}$  nitre,  $\text{℥ij}$  tinct. opii, to one horse in the course of twenty-four hours; to another I have given to the extent of  $\text{℥viiij}$  of carbonate of ammonia in the course of a similar period; that the porter was given at another stage of the disease in two portions a-day, and, in some of the cases, a larger quantity than that stated has been allowed. Out of forty cases so treated, only one died, and the stomach, I may say, shewed no trace of disease; while four cases, treated according to that system which has been recommended by many of my brethren, died.

J. P. CHEETHAM.

London, 11th January, 1837.

## ABSCESS IN THE THIGH OF A HEIFER.

*By Mr. POPE, Tarves, Aberdeenshire.*

I WAS sent for on the 30th August, 1834, by Mr. Pirie, miller, of Torrie, to see a quey which was taken badly the day before. When I saw her she was down, and unable to rise; pulse 97, and mouth very dry. I commenced feeling for the part affected, when I found the disease seated in one of the thighs, which crackled when I handled it from the pelvis all the way down to the hock joint. I bled her freely from the neck, and gave a cathartic (magnes. sulph.); I then took my lancet, and made several pretty large punctures in the swelled parts; inserted a seton; got some warm water (as warm as could be admitted of) and commenced fomentations, and continued them for four hours, after which I rubbed her dry, and gave injections, &c.

I continued laxatives, injections, and fomentations for a week; at the expiration of which time, matter formed, and was freely discharged, and I rested satisfied that my patient was doing well. At the expiration, however, of three weeks, I was somewhat surprised that the swelling continued, the parts having discharged so well. I made a deep incision about three inches in length, and introduced my fingers; when, to my no small astonishment, I found the fleshy fibres completely detached from the femur. I immediately enlarged the orifice, and extracted five pounds weight of the deadened mass, and cleansed the parts well with warm

water and soap, after which I applied astringent washes. At this time the poor animal could not stand, her frame being so much debilitated; but at the end of a week she contrived to support herself when helped up, and after that she gradually recovered, and is now a fine thriving cow.

## THE EFFECTS OF THE BITES OF VIPERS.

*By M. CHANEL, Bourg.*

THE district which I inhabit conceals a great number of vipers in its forests and marshes, the dangerous effects of whose bites often come under notice. I select the two following cases:—

1817, *Aug. 1.*—Two young mares, each of them with a colt at her foot, lying by the side of a marsh, were bitten by a viper, near and a little anterior to the udder. On the following day there was on the belly of each a swelling, reaching from the teats to the xiphoid cartilage. One of them was put under my care. The swelling, of an œdematous character, was very hot; its elevation was more than an inch and a half, and it was extending backwards along the inside of the thigh. She had a great deal of fever, refused her food, and walked with difficulty. The wound inflicted by a viper was easily recognized. The secretion of milk was suppressed. I freely lanced the tumour; a considerable quantity of red serous fluid escaped. Two setons were passed along the whole course of the tumour. The swelling was well rubbed with an ammoniacal liniment.

3d.—The tumour has very much increased. I passed the firing-iron all round it, and somewhat deeply in several places. Ammoniacal frictions were applied to the udder and thighs.

4th, 5th, and 6th.—Very little change.

7th.—There is considerable discharge of serum from the wounds made by the iron. Continue the friction.

8th.—Diminution of the swelling. The setons are suppurating. Bitter tonics were administered, and gentle exercise prescribed.

15th.—The swelling has disappeared, but a very large tumour has formed in the situation of the setons. This subsided after the administration of two purgatives, and the mare was discharged on the 19th.

The other mare was not submitted to any medical treatment. The under part of the belly, the teats, and the whole of the hind limbs, were dreadfully swelled, and the mare died on the 5th of August, but apparently suffering very little pain.

Examination after death exhibited the extensive swellings, becoming in a manner lardaceous, and containing a great deal of serosity. The peritoneal membrane presented several black inflamed spots. The milk was coagulated in the left teat, which was the nearest to the bite.

These cases prove, that, notwithstanding the immense difference of size between our larger animals and the viper, this reptile can inflict a bite which will be speedily fatal, unless proper means are taken to oppose the influence of the poison. It is generally believed in this country that it is the smell of the milk which attracts the viper. I know not now far this notion is well founded, but almost every wound of this kind that I have seen has been in the neighbourhood of the udder. Perhaps the thinness of the skin at this part may have something to do with it.

*Recueil de Méd. Vét.*

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## A CASE OF DIFFICULT PARTURITION IN A COW.

*By Mr. CARTWRIGHT, Whitchurch.*

IN the month of January last, a farmer in this neighbourhood purchased a three-year old heifer of a person in this town, who had bought her a few days before at Chester fair. She was a plump sort of thing, of the short-horned breed, and was expected to calve in April.

21st May, 1836.—I was this day sent for to see her, as she was voiding water often, and straining occasionally a little. The owner said that neither he nor any one else could positively say whether she was in calf, as the calf could not be felt on the off side or any where else exteriorly, and he therefore wished me to examine her. I, like the rest, could not feel one outside. On introducing my hand up the rectum, I could feel a large tumour, which pressed very much upon it (the rectum), so that I could scarcely get my hand up. On examining her through the vagina, I could also feel a large tumour, and which was, no doubt, the distended uterus. The tumour was about a foot from the vulva. The os uteri was not at all dilated, and lay not horizontally straight before me, but a little lower down; and I could just put my finger into it, on bending the finger downwards.

I persuaded him to leave her alone for awhile, and merely give her an aperient drink of salts.

22d.—About the same: her udder is now quite distended, and

is "honing" up towards the tail. I advised that she should be milked, which was done.

26th.—Still the same, and continues to strain as before: is out at grass, and feeds pretty well. Repeat the aperient drink.

June 7th.—Being veterinary surgeon to part of the North Salopian Cavalry, I was obliged to leave the town for a week, to attend upon the horses at Oswestry; I consequently did not see her since the last date, but was informed that she continued nearly the same: this morning, however, I was sent for in a great hurry to her, as she had passed some of the cleansing, but could not calve. I went immediately, and found that about a third of the cleansing was forced out, and which was partially decomposed. I then introduced my hand, and thought that we were likely to have a difficult affair of it, as I found the os uteri not dilated more than four or five inches in diameter; the calf, in every probability, laying upon its back (when the cow stood up), its head not far from the os uteri, with its jaws pointing up towards the vertebræ, and one leg presented, which was a hinder one.

Now, what was to be done? The os uteri was not half sufficiently dilated for a calf to come through, nor was she "off at the hips" (an invariable sign with farmers of a cow being at her time of calving), and it was very clear that the calf was in an unnatural position: I therefore, after a great deal of difficulty (the parts being so confined, and the cow straining so much, which completely cramped my hands and arms), found one of the fore feet. On pulling at it, the hoofs came off, but I got it sufficiently forward to tie a cord round it, and drew it into the passage. With the same difficulty I found another leg, but it turned out to be a hinder one, and which it must be well imagined annoyed me much. I, of course, tried again, and found the other fore leg and secured it with a cord, and drew it also into the passage. The hoofs came off from all the three legs. I then secured a hook in the lower jaw, and used some little force to pull it into the passage, but could not succeed, from the fear of the hook breaking its hold and catching in some part of the uterus. I could not get a cord over the head to the neck, do what I would. If I could have got the head into the passage, I hoped that the os uteri would have dilated on pulling at the legs; but it was all in vain, and, as to getting at a part of it to cut away, this also could not be accomplished: after all our trouble, the owner wished me to desist, and wait to see if the parts would dilate. I left her eating hay.

8th.—She is as well as might be expected; she of course strains a great deal, but feels warm and comfortable. Pulse 90.

9th.—She does not seem so well, is more restless, and does not feed well. I ordered her gruel, and any thing she would eat, and to be kept comfortable. Her pulse is not at all over quick, and, upon the whole, the symptoms are not of the worst description; but she moans, and puts her head out on the ground, which I do not altogether like. To be left alone until to-morrow.

In the course of the night she died, but she had previously strained a great deal.

I opened her on the next morning but one. The foetus was nearly in a decomposed state, and the bones were separated, in a great measure, from the flesh. There was no vestige of intestines, but they were become one mass of putridity. It appeared to be about an eight months' calf: there was hair on it, but it was short. The passage was a little discoloured, and the external parts were swelled, but not greatly so. If there had been room to remove the foetus by the passage, it would not have borne drawing out by the legs. The uterus was in that state in which we should imagine it to be when containing a putrid carcass.

## TUMOUR IN THE STOMACH, WITH ANASARCA.

*By Mr. B. BULL, Launceston.*

HAVING had rather a singular case of morbid anatomy lately occurring in my practice, I now forward an account of it. It took place in a mare about seven or eight years old, and appeared, at first, in the form of a tumour at the point of the breast, opposite to what is called, in butchers' phraseology, the *sticking-bit*. Just below it was an anasarcaous swelling, running along the under part of the belly. The pulse was rather quick and corded, and there was a hot and dry tongue; other marks of symptomatic fever also presented themselves. The skin was harsh and dry, and the mare much emaciated, although but little depressed in spirits. I ordered four quarts of blood to be taken away, and sent three balls composed of small doses of aloes, with tartarized antimony, nitre, resin, and linseed meal, with four cordial diuretics to be given after them.

The enlargement, formerly called *anticor*, was rather hard and tender; I therefore tried at first to repel it, but, finding all means ineffectual for that purpose, I sent a very mild blister ointment, to be rubbed in previously to application of a poultice.

A large abscess very soon formed, and I was sent for to open it: on doing which, I found, by gentle examination, the cyst so deep, as apparently to have communication with the cavity of the chest. This rather alarmed me, and I told my employer to expect dangerous consequences, if not death, to follow. The poultice was continued, and the breast and body all the time kept warm.

On the next day the patient was enormously anasarcaous in both her legs, her belly, and other parts of the body. The pulse sunk so low, and became so feeble, as scarcely to be perceptible. The fever symptoms were now all gone, and the mare seemed to be recovering her appetite.

I inquired concerning her urine, and was told that her *water* was dark-coloured. On hearing this, I gently irritated the membrane of the vagina with a peeled onion (a common practice here), in order to force her to stale; and in a minute or two a copious flow of black putrid-smelling urine came from her, without causing any apparent pain. In this extreme state of the disease I hardly knew what to do. Various things suggested themselves to my mind; but the medicines most likely to remove the enormous anasarca on the one hand, and the hæmaturial symptoms on the other, appeared to me to be those of diuretics, cordials, and astringents combined together. I, therefore, gave them, as the last resource, but without avail, for the mare died.

On post-mortem examination, I found the lungs were full of tubercles, and much inflated with emphysema (is not this singular, seeing that her breathing during illness was not at all excited?) The heart was soft, and slightly inflamed, and the pericardium nearly filled with black fluid. The liver was of a dark *ashy-green* colour, and very much decomposed. All the other abdominal viscera were comparatively free from disease; the stomach, however, excepted, a large round *tumour* being seen on its inner membrane, near its pyloric extremity. The knacker (I mean the carrion buyer), on seeing this, said, "Sir, *why here's a growth formed.*" On opening it, more than a quart, I think, of white perfectly-formed pus came from it, and which led the enlightened person just mentioned to say to the owner, that "*all the vettenares in Lunnon could not have cured it, nor all the drugs in Larnson.*"

I am totally at a loss to account for the *hamaturial* symptoms, unless it be by attributing it to the escape of a depraved bile (from the decayed substance of the liver) into the general circulation. The pericardium contained precisely the same kind of fluid.

## METASTASIS OF INFLAMMATION IN A COW.

*By Mr. JOHN TOMBS, Pershore.*

*Dec. 10th, 1836.*—A YOUNG cow, belonging to an agriculturist in this neighbourhood, was taken ill last night. This morning I saw her labouring under the following symptoms:—quick, but not deep breathing; pulse 60, and hard; legs, ears, and horns cold; an increased flow of saliva from the mouth; disinclination to move; refusal of her food, and rumination having ceased. Abstract five quarts of blood. Give sulph. soda  $\bar{3}$ xij, nitrat. potass.  $\bar{3}$ vj, digitalis  $\bar{3}$ j.

*11th.*—Pulse 50, and not so hard as yesterday; breathing extremely laborious: there is a dew on the nose; ears and horns cold; does not lie down, eats but little. When made to walk, she grunts, clearly indicating pneumonia. Blister the sides; insert a seton in the dewlap. Give Epsom salts  $\bar{3}$ x, nitrat. potass.  $\bar{3}$ ss, digitalis  $\bar{3}$ j. In the evening, symptoms of inflammation of the bladder came on: she was continually setting her back up; straining and voiding her urine. Bleed, and give linseed tea frequently.

*12th.*—Pulse 60, and hard; she is in excruciating pain, straining, and voiding her urine drop by drop incessantly. Nose dewy; skin, ears, and horns very hot; does not lie down; moves reluctantly; refuses food and water.

A swelling made its appearance last night between the angles of the jaw, which some of the “knowing ones” regard as an ill omen, shewing, as they say, rottenness of the interior of the body. She gives very little milk, as may be reasonably expected. Bleed again. Give ol. ricini, a pint, tinct. opii  $\bar{3}$ j, and supply her with linseed tea. In the evening, no better. Give sol. gum arabic and tinct. opii.

*13th, 8 A.M.*—Feeds sparingly; pulse lower; breathing quick; great irritation in the bladder; in very considerable pain previously to and after voiding her urine, which she still does in small quantities. Give tinct. opii, gum arabic, and carbonate of soda: linseed tea as before.

*6, P.M.*—Has lain down all the afternoon. Pulse 50; bowels slightly constipated; inclined to eat. Give ol. ricini, a pint.

*14th.*—Great amendment; breathing not much disturbed; ears and horns of a proper heat; appetite improved; lies down comfortably; voids her urine in larger quantities, and without suffering pain: there is no sediment at the bottom of the urine; her fæces are too hard. Give sulph. sodæ  $\bar{3}$ xij.

*15th.*—Purges greatly; her general health is considerably

better ; respiration tranquil ; pulse natural ; eats and ruminates. Give ginger and gentian, and gruel occasionally.

16th.—Milk fast returning ; lies down, stretches herself ; eats well : in short, she is so far recovered, that I have struck her off the sick list.

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## CASE OF FRACTURE OF THE UPPER JAW-BONE.

*By Mr. CLAYWORTH, of Spilsby.*

June 1st, 1836.—A JOBBER in cattle was returning from this market, in liquor, and going at full speed, when his mare, a three-years old, fell with him, and pitched on her muzzle, and fractured the upper jaw, about three inches above the corner incisors, on both sides. The front teeth and jaw were turned like a hook completely within the bottom ones. The parts soon became much swollen and inflamed. Fomentations were at first applied ; but the mare was cast and brought on her back as soon as possible ; and, a balling-iron being put into her mouth, I placed my knee against her nasal bones, and, exerting considerable force, pulled the teeth outwards into their proper situation ; and, of course, as there were no muscles to act upon these bones, I had no trouble to keep them in their proper place.

She was then tied in the middle of a large box, by means of a halter on each side, so that she could not get to rub her muzzle against any thing that would be likely to disturb the parts. She had a plentiful allowance of bean-meat and linseed tea, which she took very readily, and without much difficulty.

8th.—A great deal of swelling and inflammation about the lips and nose. I gave  $\text{z}\text{i}\text{j}$  of Cape aloes in solution, with  $\text{z}\text{i}\text{j}$  of ginger, and ordered fomentations to be diligently applied as before. She takes her gruel freely.

9th.—The inflammation and swelling much worse than yesterday ; a great quantity of saliva is discharged from her mouth ; she appears altogether worse, and her breath smells very disagreeably. Her appetite is not so good. The medicine has not acted. I gave  $\text{z}\text{i}\text{j}$  of aloes with  $\text{z}\text{i}\text{i}\text{j}$  of linseed oil, and  $\text{z}\text{i}\text{j}$  of ginger. Foment, &c. as before.

10th.—The bowels opened : she looks more lively ; the swelling is abated, and the appetite is better : foment frequently in the day, and allow plenty of gruel. This sort of treatment was continued until the end of the month. When I saw her about the middle of the next month, the closest observer could scarcely perceive that any thing had been the matter, and, as the owner said, “ her *ivories* fitted like a rat-trap.”

## A CASE OF FRACTURE OF THE LOWER JAW-BONE.

*By the same.*

ON the 18th February, 1833, I was requested to see a brown cob, more than twenty years old, the property of — Jones, Esq. of Warrington. I found the animal trying to masticate some hay. He would get a lock of it in his mouth, and, after trying to grind it for a few seconds, would drop it. I must confess I was at a loss for some minutes to find the cause of this, there being no external swelling or pain when the parts were handled. However, on passing my thumb up on the inside of the mouth, I found a fracture on the off-side of the jaw, close to the first grinder.

As the bones were in their proper situation, there was nothing to attend to but the nourishment of the animal, for which I ordered some beans to be ground, and two pounds of the bean-flour to be added to a gallon of linseed tea, with a little bran. The horse had not much difficulty in taking this. His head was kept tied up to the rack, in order to prevent him from trying to get at his neighbour's hay or his own litter. Apply evaporating lotions several times in the day.

*Feb. 23d.*—He takes his gruel freely, to the amount of a half peck of beans per day. There is no inflammation of any consequence, therefore apply nothing to the part.

*March 6th.*—He is still taking plenty of gruel, and is going on well.

*16th.*—He is quite well, and can crush old beans like a four-year old.

## ULCERATION OF THE COLON.

*By Mr. HOLFORD, of Northwich.*

THE following being a case that has been the cause of much unpleasantness between the groom and his master, and I being innocently judged by the fraternity of the former as being the cause of the dispute, it is transmitted to THE VETERINARIAN, in the hope that the Editors will favour me with their opinion in the periodical of the next month.

*Oct. 18th, 1836.*—In haste my presence was requested three miles and a half hence, at the seat of our aged and venerable

sportsman, the right hon. Lord Delamere, of Vale Royal, to attend one of his most beautiful stud that had this morning been seized with muco-enteritis, but which I was led to believe, from his known valued servant, to be a disease of a different nature. Harrison, the groom, had eight or ten days ago put the hunters through physic; and it was observed that the mare in question purged more freely than the rest. It, however, set in two days, leaving her duller than her companions up to the day but one prior to the attack, when she began to take her corn, and appear as well as the rest. This morning he was going to have repeated the dose, had not the disease in question put a stop to any farther proceedings.

The drugs for these horses were all compounded at one establishment, that of Mr. Williams, druggist, of this place. The quantity given to this mare was  $\text{ʒviii}$  of aloes, it being the dose he had been in the habit of giving her, having before proved that a smaller ball would not produce the desired effect.

*Symptoms.*—Milder than those usually observed in inflammation of the peritoneal or muscular coats; extremities variable, and a purging of fæcal matter of the most offensive smell, saturated with blood and mucus. The treatment consisted in bleeding, she being of a plethoric habit, administering demulcents and anodynes, with an occasional laxative of linseed oil internally, and powerful blisters and counter-irritants externally.

On the 10th, the symptoms appeared easier, and the purging less frequent; the fæces of their natural colour, which they retained to her death.

On the 11th, she became worse, and fell on the 12th, never to rise again.

*Post-mortem appearances.*—Stomach and small intestines healthy. Cæcum reddened on its mucous surface. Colon: its vessels on the inner surface congested; it was of a jet black, and ulcerated from one end to the other, especially in the larger portion. Rectum more inflamed than the cæcum, but less than the colon. The other abdominal and thoracic viscera presented no marks of disease worthy of record.

*Remarks.*—You will perceive that the physic had ceased to purge for nearly a week prior to the mare's commencing the ejection of bloody and offensive fæcal matter. That the same drug had been given to the other horses in the same stable, and the quantity, although a large dose, is no more than she had been in the habit of taking. Had the articles used been of an inferior or improper quality, I should have expected the other animals to have suffered. Is it possible that a portion of the drug to could be lodged in some inert matter within the cells of the

colon, and thereby for a time prevented from having its full action on the mucous surface? or does such extensive ulceration arise from some unknown but suspicious causes since the purging a week ago?

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The practice of giving physic to hunters in the middle of the hunting season, is, to say the least of it, one by no means to be commended. The tone the body is in at the time, and the condition the bowels are in, are both such as to call for augmented doses of medicine; and it is very likely that this large dose of medicine has to encounter a distended colon—a colon stuffed with the best hay and corn and beans—the sudden and convulsive disturbance of which is likely to cause some irritation to the intestine. Supposing, however, such not to be the case, hardly has the physic subsided, than, the frost breaking, the hunter is called to perform the greatest possible exertion, and certainly at the risk of inducing disease in parts just now excited to inordinate action by highly irritative medicine—medicine that leaves behind it, probably for days, an irritability, a morbid sensitiveness, which readily afterwards becomes converted into inflammation. The groom might not have been to blame. To interpret the case as it stands—taking it for granted that the tale told is in every point a veracious one—disease might have existed—produced probably by prior physicking—in the colon; which the last dose only served to aggravate and extend to such a degree as to occasion death. The colon is a part very liable to chronic disease—to ulcerous disease in particular. The dysenteric scouring which cows are subject to, has been found to proceed from old-standing ulceration.

The case is, on the whole, better explained on the supposition of lurking disease of the colon, than on the suspicion of the unacknowledged administration of another physic ball.

P.

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## A DESCRIPTION OF AN IMPROVED SET OF HOBBLES.

*By Mr. GLOAG, 10th Royal Hussars.*

THESE differ from all that are in general use, in their not being fastened to the leg by straps and buckles, and that by the withdrawing of a screw the legs are not only loosed, but the hobbles simultaneously fall off, leaving the animal at perfect liberty. In their application it may easily be seen that there is a great saving of time, and consequent comparative safety to the animal and to the operator; thus rendering them superior to any other description of hobble hitherto invented. The time which would be taken up in buckling one hobble on the fetlock in the old way is here fully sufficient to allow of the animal being thrown on the ground—the mere act of passing the rope or chain securing the hobble to the leg of the horse. In the set which I have in use I have two with straps and buckles at the back, to allow of any leg being released at pleasure for operations, &c. The same method of making every hobble with straps and buckles at the back would be useful in private practice, in as far as by that means they could be adapted to every sized animal, from a foal upwards.

The hobbles are made of two pieces of leather, with an inside lining to protect the edge from galling the horse's heel. At each end is a ring of iron, so shaped that the one may fit within and project through the other; and these rings are secured to the leather by means of iron straps. The rings run freely in their sockets, and consequently, from the elasticity of the leather, the hobble will fly open when released from the rope. I have shewn one hobble with a strap and buckle at the back, which allows the leg to be released without interfering with the rest. One of these hobbles has the iron ring at the end shaped like a D, a little longer than the rest, with the intention that this hobble shall be placed on the fore-leg which is intended to be uppermost when the horse is on the ground, and made a little larger, because it has to receive the last link of the chain, as well as to allow the free passage of the chain through it. I have about two yards and a half of chain attached to the end of the rope; and the intention of having so much chain is, that there shall be no stoppage or obstruction when the rope is united to the chain. I have given a rough drawing of one hobble without a strap and buckle at the back, and one with it.

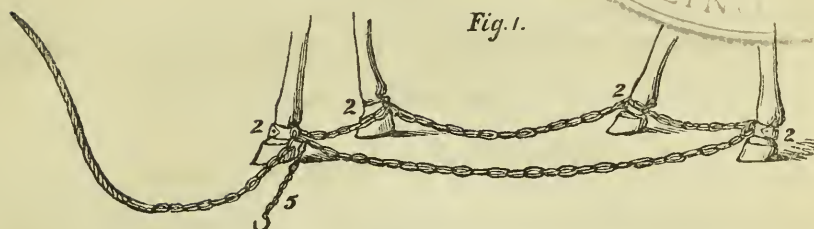


Fig. 1.

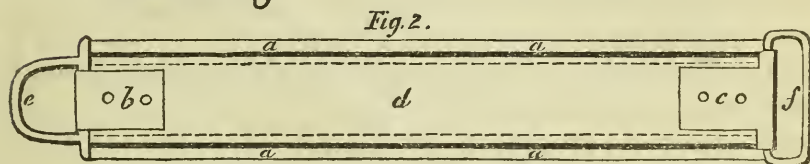


Fig. 2.

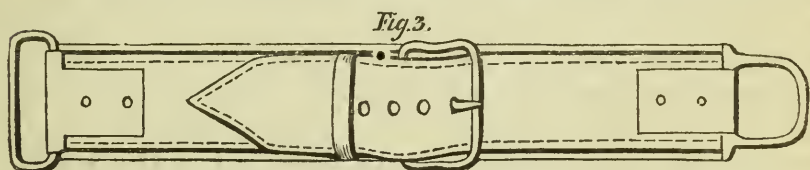


Fig. 3.

Fig. 4.



Fig. 5.

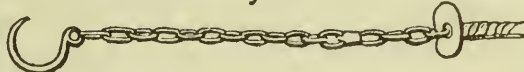
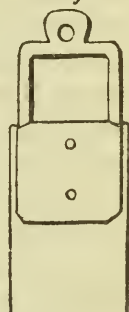


Fig. 6.



## EXPLANATION OF THE DRAWINGS.

Fig. 1. Animal standing with hobbles applied.

Fig. 2. A hobble without a strap and buckle at the back; *a a a*, the inside leather lining projecting over the edge; *b*, iron strap attaching the D to the hobble, made of wrought Swedish iron, rivetted on both sides through the leather; *c*, iron strap securing the ring which receives the D, made with a projecting shoulder to keep the ring in its proper position; *d*, the body of the hobble, made of two pieces of thick leather, with an inside lining, all sewed together; *e*, an iron ring shaped like a D, with projecting shoulders, to prevent the other ring slipping quite over it: it is made of the best wrought Swedish iron, 3-10ths of an inch in diameter, and which, if properly made of that substance, although light looking, I have found quite sufficient for the strongest animal: the D turns freely in its socket; *f*, iron ring which receives the D, made sufficiently large to receive the D freely; this ring, like the other, turns freely in its socket.

Fig. 3. A hobble with a strap and buckle at the back, to allow of the leg being released.

Fig. 4. A loop of iron, with thickened flattened ends, with a hole to receive a screw, which secures the last link of the chain, (see Fig. 1).

*Fig. 5.* Screw and small chain running on a swivel like a dog-chain ; at the extremity of the small chain, is a hook, which secures the animal when down, by being passed through the last link of the large chain.

*Fig. 6.* The end of the hobble, to which the chain is affixed.

### *Application of the Hobbles.*

The end of the chain is first passed through the hobble that has the longest D, and which is always placed on the fore-leg that is intended to be uppermost when the animal is on the ground. The chain is now passed quickly round through the other hobbles, and brought to that at which we commenced, and the last link secured to the long D by means of the screw and cottrel (*fig. 4* and *5*). The horse being now pulled down, the hook at the end of the small chain (*fig. 5*) is put through the nearest link, and the animal is then secured. Any leg can now be let at liberty at pleasure, by undoing the strap and buckle at the back of the hobble. When you wish to let the animal get up, it is only necessary to withdraw the screw, and the chain being released, all the hobbles fall off the legs, and the horse is at perfect liberty.

To make these hobbles more generally useful, I here subjoin the size of the different component parts of those I have in use. My hobbles are adapted for a general sized horse, and their dimensions are given in inches.

Leather work in those without straps and buckles at the back—length 12, width  $1\frac{3}{4}$ , thickness  $\frac{1}{2}$ .

Inside leather lining 3 inches wide.

Iron securing the D—width  $1\frac{2}{5}$ , length  $2\frac{1}{8}$ .

Iron strap which secures the ring which receives the D when fastened to the leather— $1\frac{1}{4}$  wide at the shoulder,  $2\frac{1}{10}$  wide, length of the strap  $2\frac{1}{8}$ .

The iron rings which receive the D's—length  $2\frac{3}{4}$ , width  $1\frac{3}{10}$ , in diameter.

The D's at the shoulder— $2\frac{7}{10}$  wide, mean width 2, length 2, thickness  $\frac{3}{10}$ , diameter of the larger D is  $2\frac{3}{10}$  long.

Size of hobble with straps and buckles at the back—the length of leather work receiving the buckle  $6\frac{1}{2}$ , length of the other strap 11 ; the buckle slightly curved, length  $2\frac{2}{5}$ , width  $2\frac{2}{5}$ , thickness  $\frac{3}{10}$ .

Chain  $2\frac{1}{2}$  yards long, the last link made to fit between the iron loop (*fig. 4*).

The iron loop made just large enough to fit on the D and receive the last link of the chain.

The hook made round and sufficiently strong, so that, no matter how the animal may struggle, it can never slip through the D.

## CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

*By Mr. YOUATT.*

No. XIV.

## SCROFULOUS TUMOURS—TUBERCULATED SPLEEN.

(Before I had begun to try the Hydriodate of Potash.)

1833, *Aug. 14th.*—MONKEY. A hard tumour, enclosed in a dense cyst, with a slight opening, whence proceeds an ichorous discharge, has lately appeared in the axilla, and is growing. I would take it out, but I know not how I should contrive to keep on any bandage. I scraped a stick of nitrate of silver to a fine point, and introduced it into the opening, and worked it almost the whole of the way round the enclosed tumour.

12th.—I had hoped that the tumour would have slipped or sloughed out. Apply the caustic again.

Sep. 4th.—The tumour is very much diminished, and the orifice closing.

8th.—Tumour continuing to diminish.

14th.—The old tumour has subsided, but a little crop of minute ones is beginning to grow around the situation of the old one. It is very difficult and dangerous to him and us to catch him : let him alone for awhile.

I was absent during a month.

Oct. 20th.—The old tumour is again beginning to grow ; but it seems to be of a soft spongy nature, and around it are numerous pustular eruptions. We cannot force him with the iodine. Let him alone.

31st.—The tumour has diminished, and the eruption dried up ; but both have appeared under the left arm, with considerable discharge from the pustules. What is to be done ? He would fight to the last before he was secured, and then, not even one dose of medicine could be forced on him. Let him alone.

Nov. 13th.—The swelling is diminishing, and the pustules scaling off.

20th.—Although the new swelling under the left arm had been diminishing, the monkey had been growing weaker, and could scarcely get on its perch. This morning he was found dead. The post-mortem examination discovered no cause for sudden death, but a great deal of chronic disease. The lungs were emphysematous—the liver yielded to the slightest touch—the spleen was more than treble its natural size, and tuberculated

throughout ; some of the mesenteric glands were enlarged ; but the omentum exhibited most inflammation, and was loaded with a flaky deposit.

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### RESEMBLANCE OF BUBO IN THE MONKEY—HYDATIDS— CONCRETIONS.

1833, Nov. 13th.—MONKEY. Has a disgusting habit of masturbation. Whenever he is noticed by male or female, he produces a discharge of seminal fluid, which he immediately catches and eats. His testicles are much enlarged, and he has, if I may dare to say so, as plain a suppurating bubo in the groin as ever was seen. I will try the effect of mercury. External applications are impracticable. Give him two grains of the blue pill morning and night.

It was, after a little while, impossible to cheat him ; and as for forcing him, it was out of all question. Yet the mercury did good, or by some natural process the ulcer healed : but soon afterwards a tumour began to occupy its situation, and the patient slowly wasted away and died. The tumours, for others afterwards appeared, were filled with cheesy pus. Internally they communicated with an irregular hardened mass, reaching from the lumbar region into the pelvis, occupying and filling the pelvis, and pressing upon the rectum, so that a quill could scarcely be passed ; and the whole of the bladder was also forced into the abdomen. The omentum was studded with numerous small hardened concretions, and to it was attached a cluster of hydatids, firmly agglutinated together, and a large acephalous one detached. The inflammation and deposit were confined to the omentum. The liver, otherwise healthy, had two large hydatids in its substance. The lungs might be said to be healthy.

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### A CASE OF PUERPERAL FEVER.

*By Mr. HOLFORD, Northwich.*

IN the by-gone numbers of THE VETERINARIAN, Mr. Friend has given us the doctrine of puerperal fever being a disease of the organic motor nerves, with the opinion of whom I firmly agree, more particularly as the success of the stimulating treatment that gentleman recommends, practically proves the truth of the assertion. It, perhaps, would be imprudent for me to

make any remarks on the attack made by the Edinburgh Pupil, as I might receive the like insult from some other quarter, being, with Mr. F., "*a London-taught veterinarian.*"

The object in my contributions is, not to fill your pages with strife and jealousy, but, if possible, to add my mite for the improvement of our profession. It is stated in the sacred volume that, "a house divided against itself cannot stand;" and to a certainty that would be the termination of *THE VETERINARIAN*, was it not for the wish at heart our worthy Editors have for the cause; thereby interfering and compelling the parties to discontinue their course. Would to God that this bad spirit would cease, and that all would go hand in hand; our cause would then prosper, and every person would contribute cheerfully.

But to the point. Mr. Rothwell, of Wilton Street, Northwich, had a young cow, high in condition, that calved on the 12th of this month. On the 15th he gave her a tolerable quantity of grains. On the evening of the 16th, she was observed to be different than usual; but as she suckled the calf it was thought of no moment and she was left for the night. On Saturday, the 17th, she was found down, unable to rise, and moaning most pitifully; the secretion of milk quite gone, and, in fact, all the symptoms before described in your Journal, with the exception of delirium and blindness, were present.

I opened both jugulars, and abstracted nine quarts of blood, and gave mag. sulph. lbj, rad. gent.  $\mathfrak{z}$ j, zingib.  $\mathfrak{z}$ j, croton farinæ  $\mathfrak{z}$ j, lyttæ pulv. gr. xx, sulphur  $\mathfrak{z}$ v. ant. tart.  $\mathfrak{z}$ j. This was at 8 o'clock A.M. I also ordered linseed gruel to be given every two or three hours, clothed her body, and left her.

5 o'clock, P.M.—Better; but no action of medicine, and at present not able to rise. Gave mag. sulph.  $\mathfrak{z}$ viiij, ant. tart.  $\mathfrak{z}$ j, pulv. lyttæ gr. xij, et zing. et gent. ana  $\mathfrak{z}$ ss.

18th.—Better; with difficulty can raise herself without assistance; purges freely. The fever and tonic medicines given as last night.

19th.—Convalescent. I continued the tonic, but omitted the fever and purgative medicines. She gave a pint of milk after the calf had satisfied itself.

20th, A.M.—Milk increased to two quarts after the calf had done: purging ceased. Tonic medicine continued.—P.M. Three quarts of milk, when calf had finished.

21st.—Milk diminished to two quarts after the calf was satisfied; but, considering that the calf daily required more nourishment, there was no actual diminution of milk. From this period she gradually improved in milk, &c.

Might not the large quantity of gruel assist the tonic medicines in promoting the return of the secretion of milk?

## A FEW CONCLUDING OBSERVATIONS ON PUERPERAL FEVER.

*By Mr. ARCHIBALD WILSON, of the Edinburgh Veterinary School.*

FOR the last time, on this subject, will I trouble the readers of THE VETERINARIAN with a few brief remarks on this disease; and in making these remarks, my chief object will be to arrive, if possible, at the truth, as, without the love of truth, the love of knowledge is a mere delusion, an empty name without any meaning. In THE VETERINARIAN for December there is a reply, from Mr. Friend, to some observations which I made on this disease in the previous number; but I regret that these observations should have offended Mr. F., because I had no intention of doing so. I will not, however, offend any more, as evil is always the result.

Before noticing any part of Mr. Friend's last paper, allow me, for the sake of truth and the importance of the subject, to make a few remarks on what is inserted in THE VETERINARIAN for March; for there, page 142, Mr. Friend says "that fever or inflammation is not a *cause* but a *consequence*, and that the origin of this disease (puerperal fever) was not yet traced or pointed out by any writer." I scarcely think it necessary to deny the correctness of this statement, as every one who knows any thing at all about what has been written on the diseases of cattle must be aware that there is a lucid, a masterly account of this very disease, of nearly eight pages, in "The Library of Useful Knowledge;" and if Mr. F. has not seen it (and I have no reason for supposing that he has), the sooner that he does so the better, as, excepting this very account, I had little else to guide me in the treatment of the first of the three cases which I sent you, and *that was an extreme case, so utterly hopeless, that a "London taught veterinarian said, when he saw her, that "the sooner the butcher was sent for the better."*

If this fever be only the "consequence" and not the "cause" of some other disease or diseases, attending some animals during parturition, then its name (puerperal fever) should be extinguished for ever. We certainly should call every disease by its proper name; and why call this disease "puerperal fever," if it originates in the "organic motor nerves?"

But let us see whether this statement be correct or not; whether any of the symptoms which accompany puerperal fever were ever found to exist without a considerable degree of fever

after the *first bad symptom* had been recognized? Is the animal dull, and has she given up feeding? We shall find her feverish. Is rumination suspended? We may be sure to find a still greater degree of fever. Is the breathing difficult and the respiration hurried? Under each and all of these consequent symptoms there is fever. There is fever before any of them has been detected—there is generally less or more fever before the cow calves; and need it be a matter of surprise, when improper treatment has been adopted, by feeding or otherwise, that a considerable degree of fever is soon observed after parturition?

What is fever? It is a disease that affects all the organs of the body; but some organs may be more or less affected than others. Some fever may depend on inflammation, acute or sub-acute, modifying the symptoms very much. Other fevers, again, may arise from functional derangement of some organ or organs, having, as yet, no connexion with inflammatory action. A third kind of fever may arise from the lost balance of the circulation, where there is a determination of blood to deeper seated organs. Now, from which of these causes puerperal fever generally arises, it is not of much consequence to know. It is better that we should know whether or not the symptoms are different; because I should suppose they are not: and if not, the same treatment that does good in one case will do good in another; modified, of course, according to the mildness or severity of the attack. From the foregoing remarks, I think it may justly be inferred, that with each and all of the symptoms which accompany this disease, there is fever to a greater or lesser degree: there is complete loss of appetite—rumination is suspended—severe constipation has, likely, already shewn itself—there is also, and I admit it most frankly, “great prostration of strength,” arising from great precordial oppression.

Now, how are these evils to be overcome? how are they to be combatted but by depletion, by purgatives, and bleeding? A free use of the lancet is not warrantable at all times, and the remark is applicable to cows in this disease, because I have found the patient sometimes in such a state, that only about two quarts of blood could with safety be taken away at first, but in a few hours afterwards we could take six or seven more.

Then, I ask, whether I was right or wrong in pushing the bleeding and medicines to the extent to which I did push them; or would it have been better practice to have adopted milder treatment, and allow the disease to run its course? Such a question scarcely requires an answer. When a fever, of whatever kind, is once lighted up in the system, no one can tell how it may terminate, but every one who has the charge of such a

case is bound to do his utmost in order to extinguish it; and, however severe his measures may seemingly be, will any person with common judgment say "that less severe, less active means would have done equally well, or better, thereby saving a needless waste of blood, and a still more needless waste of medicine?"

The point in dispute is simply a rule-of-three question, and it is this,—if so much bleeding and medicine did great good, will not much less of both do ill? Most assuredly it would. A trifling bleeding is often worse than none, and I may say the same of a limited quantity of medicines given. But the lost balance of the circulation must be restored, and the stomachs and bowels roused to a healthy vigorous action; and as soon as these are accomplished, the case will be likely to do well.

It is a matter of moonshine to me whether I can do this by the use of one kind of medicine or by the use of twenty, if I can gain my object in removing the original cause,—fever; and until this is done, until re-action takes place, I will never be debarred from depletion, however oppressed the animal may appear to be, because the parent of this oppression is fever.

In my last paper, without thinking much upon the matter, I termed this "oppression" "debility;" and I also stated that "the animal seemed to be worn out from complete general exhaustion." Of this mistake Mr. F. has taken hold; he has, to use an expressive Scotch phrase, "*got a hair to make a tether o'.*" He did not make any allowance for it, as I did for his blunders; but I will not, I cannot, appeal to the profession, whether I did not know better: I would make no such appeal to any one, were it in my power to do so; for a blunder, whoever commits it, is always *a blunder*. However, the inability to get up or stand does not arise from paralysis; it does not arise from debility, but from "oppression," from the balance of the circulation being upset.

It may be asked, Why should fevers not cause weakness? because, if they did, the longer the fever existed the greater the weakness would be, and they would never have an end. It may also be inquired, When does "re-action" take place, and what is it? Re-action may never take place; and when it does so, no one can describe the cause or the mode of acting. It is owing to some principle of life of which we are at present ignorant. Some persons maintain that "fevers arise from diminished action of the brain;" but these very persons cannot tell us what "diminished action of the brain" is. I should think fevers may arise from diminished action in all organs.

I think I have shewn with sufficient clearness that, in puerperal fever, fever is the "cause" and not the "consequence" of some

other disease. But if, on the other hand, it be only the "consequence" of some other disease—in fact, that puerperal fever is not fever at all—that it is, as Mr. Friend will have it, a disease of the nervous substance—would any body ever dream of employing strong purgatives, and pushing the bleeding to such an extreme point as I did, I may say with complete success? If any one will say it would be good practice, I would only reply, that there never was a delusion so gross, a hypothesis so ill supported; never was practice so atrocious, and at variance with common sense. In a word, it would be a most impudent insult to the commonest understanding.

I have now but to make a very few observations on Mr. Friend's reply in *THE VETERINARIAN* for December; and in making these I shall not return railing for railing, as such conduct is extremely childish. However, after looking at Mr. F.'s six cases, as recorded, I must confess that, keeping his new theory out of the question, he has got nothing to boast of; because out of his *six cases three of them died*. Now, all my three recovered, and they were my first three.

It is true, that the secretion of milk was partly destroyed in my first two cases; in the third, the quantity given was not afterwards diminished in the least: but if I had treated the disease as originating in the nervous system, I am afraid I should not only have destroyed the secretion of milk, but life itself. But, besides this, Mr. F. is a veterinarian of sixteen years standing, and he has seen this disease, I suppose, in all its stages; he has had opportunities, too, of finding out the best kind of medicines which should be given, what their effects had been, &c. Now if, after all these advantages—I say *advantages*—Mr. F. has only saved *three cows out of six*, and yet a raw, half-educated youth from the country has saved *the first three* that were entrusted to his care, surely it may be inferred that the next three with which he may be entrusted may be saved by the very same mode of treatment—that the owners of the cows may express their satisfaction at the results; and that his teacher may feel quite satisfied that the treatment was judicious, because "all's well that ends well."

There is nothing more worthy of notice in Mr. F.'s paper, until I arrive at page 683, where he says, "I must now proceed to where he quarrels with my opinion, as to the intimate connexion subsisting between the *nerves, spinal marrow, and brain*." I never denied that the most intimate connexion exists between the nerves and spinal marrow; neither did I say that *no nerves* arose from the brain; I only said, that the "organic motor nerves" did not arise from that organ; and I could repeat the

statement. Mr. F. might have added next, that if the optic nerves suffer, or if the acoustic nerve be injured, I denied that blindness was the result in the one case, and deafness in the other.

I have merely to add, in conclusion, that I shall take no notice of any remarks which Mr. F. (or any body) may make upon the foregoing opinions, because in his last the illustrations were so unhappy, the arguments so "weak and worn out," and the general tone of feeling so ill-natured, and — but were I to select another sentence for comment out of the March number, Mr. F. would never, perhaps, be able to forgive me for so doing, so I will conclude.

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## DR. CHISHOLM ON THE MALIS DRACUNCULUS.

[Continued from vol. ix, page 645.]

IN order to explain the variety which appears in the foregoing extract, it may be useful to advert to the species of this worm which more directly comes under the designation of that infesting the human body, commonly known by the name of the guinea-worm. Sauvages includes under the generic name *Malis*, a number of insects which certainly have no relation to each other. Had the name been confined to those which the word *μαλῖς* properly applies to, *jumentorum bovim pecorumque morbi*, it might have been more correct. Linnæus, no doubt aware of this, uses the generic name *Gordius*, and confines it to those insects which have a natural affinity to each other. He gives five species:—1. The aquaticus; 2. The argillaceus; 3. The medinensis; 4. The marinus; and, 5. The lacustres. The three first are undoubtedly frequently confounded or mistaken for each other. They, indeed, equally infect the human body when it is exposed to them in the situations they peculiarly affect; but in their origin, and in their specific character, they may be readily distinguished. Barbut adopts the division of Linnæus, and gives coloured figures of them, distinctly shewing the difference. The first is thus distinguished, "*pallidus extremitatibus nigris*;" the second, "*flavescens, extremitatibus concoloribus*;" and the third, "*totus pallidus*." The specimens of the third, which I had the honour of sending to Dr. Monro, senior, in the year 1794, will manifest that they were the true Guinea worm. When Barbut says that the first is that which in Guinea, and in some other hot countries, gets into the flesh of the natives and occasions great mischief, I am inclined to think

he is misinformed. The second, or clay worm, I apprehend, is that which is found so frequently at Bombay, in the clay. But by far the most common in hot countries is the true Guinea-worm, the third, or medinensis. Had a description of those spoken of by Mr. Inglis and Mr. Scott been given, the point, as it relates to Bombay, might have been ascertained.

The generation of worms is very imperfectly known. Earth worms evidently copulate: I have witnessed them in the act of doing so many times. I believe they are oviparous. Intestinal lumbrici are certainly oviparous, and there is much reason for believing that they copulate also; for the intussusception which sometimes proves fatal to young subjects, is occasioned by knots of lumbrici united to each other in the congressional act. I am induced to form this opinion by some instructive cases which occurred to me in Grenada.

The first of these took place in the year 1787, of which notes were taken at the time. The subject was a negro child, about three years old. To the usual symptoms of intussusception were added most violent spasmodic twitchings of the muscles of all the body, terminating in complete hemiplegia, and inability to speak or swallow. Two hours after death, I opened the abdomen, and, as I suspected, found the small intestines filled with lumbrici. But what chiefly engaged my attention and surprise, was to find intussusceptions in seven different parts of the ileum and jejunum; and wherever these were formed, to find them caused by large knots or bundles of worms, which carried the gut from above downwards. In one of these, the gut had thus doubled down at least four inches, and the doubled part was considerably thickened and inflamed. My surprise was still more excited, on examining the knots or bundles, to find that their union in this state was occasioned by their being copulated, or adherent, in the manner I had seen earth worms.

They did not appear possessed of the acute sense which the earth worms so remarkably exhibit in this state, but permitted themselves to be drawn from each other. Perhaps dracunculi may propagate in the same manner. They are, indeed, much more imperfect animals than lumbrici; but, nevertheless, I cannot accede to the opinion sometimes embraced, that their generation is equivocal, or their propagation effected by offsets or cuttings. My belief is thus expressed by an elegant writer in *The Amœnitates Academicæ*: “Ne quis tamen inde neget primum in naturæ scientia axioma, *quid omne vivum ex ovo*, quamvis et hydra et Gordius in centenas partes divisi renascantur in totidem animalia.”—*De Memorabilibus in Insectis*, tom. ii, p. 401.

The ova, then, of the dracunculi being deposited in the water they peculiarly affect, are there hatched at the appointed season. All oviparous insects, we know, deposit their ova when they have acquired their perfect state; and these ova remain unhatched until the return of the season when the heat necessary for their evolution has been established. The dracunculi, there is reason to believe, deposit their ova about the middle of spring, in warm climates; and they are evolved about the middle or end of autumn. During the intermediate time, the worms seem to cease to exist; for it appears from the preceding histories, that they almost never appear from the middle of March to the middle of November.

The embryo worms insinuate themselves through the interstices of the cuticle under the cutis, and there gradually extend themselves into their full growth; and then, by the irritation of their motions in extricating themselves from confinement, they produce a very troublesome and sometimes a fatal disease. But in the great number of instances I have witnessed, and as far as was possible at the time investigated, the ova seem to have been received into the stomach with the water in which they are suspended. They pass with the nutriment into the intestinal canal, are taken up with the chyle by the lacteals, and conveyed into the thoracic duct, from whence they are poured, with the fluid in which they thus circulate, into the blood, and are finally deposited in the cellular membrane, or, more generally, in the interstices of the muscles, and here, as in their more natural nidus, occupy the same period of what may be called incubation. The young dracunculi proceed through the stadia of their growth, as they would have done had they entered in the worm state through the skin.

An obvious objection may be made to this speculation, viz.: if the eggs of the dracunculi are thus received into the human system, and are thus evolved in it, how does it happen, that, of so many received into the stomach, so small a number arrive at maturity? The answer, I apprehend, is as obvious as the objection: the action of the gastric fluid—the imperviousness of the mouths of the lacteals to any but the smallest—the involution of many in the excrementitious part of the food—the acrimonious nature of the bile—all contribute to the destruction of myriads of the eggs, in the course of their progress.

Another objection may be founded on the circumstance of the insect being generally or more frequently extracted from the lower extremities. This, however, is divested of much weight, when it is admitted that the insect in the embryo state often insinuates itself through the skin; and, secondly, when the struc-

ture of the lymphatic system is adverted to, the capacity of its vessels not permitting the return of the ova, once deposited in the cellular membrane, into the circulation by absorption.

In general, with respect to objections which may be proposed, it may be observed, that all substances endowed with life, and even the essential oils of animals and vegetables, are not soluble in the human stomach. But the oils, although they are incapable of solution in, are capable of mixture with the chyle, and pass into the circulation with it. Many familiar proofs of this exist among animals. If, therefore, the globules of oil enter into the circulating mass, and become even a part of the secretions—milk, urine, and perspirable matter, more especially of animals—it does not require much stretch of faith to give admission to the fact, that the ova of certain insects, although indigestible, from their vitality, in the human stomach, mix with the chyle without losing their vitality, and with it enter into the blood, and are deposited in various organs, according to the distribution of the vessels which circulate them.

Many of these ova are more minute than the globules of oil, and, therefore, can experience no more obstruction than they do in their passage from the stomach to the organ or part in which they are deposited. In truth, were we called upon to explain the manner in which worms find their way into the teeth, the eyes, the urine, the liver, the pericardium, the kidneys, &c., in no other way could we rationally account for the phenomenon, than by saying, that the ova of these worms are received into the stomach with the food or drink, mix with the chyle, enter into the blood in a living state, and are deposited in various organs, where they are evolved, and produce living insects.

We can in no other way explain the surprising facts of worms found in the eggs of fowls, and in the intestines of a human foetus before birth. We must believe that their ova have passed through the circulating vessels of the mother, and by this means been conveyed to the foetus. The capacity of the stomach during life to resist the action of the gastric fluid, but the loss of this capacity with the loss of life, is a satisfactory enough proof that substances endowed with vitality may exist in the stomach without suffering by the action of the gastric fluid.

Another analogical proof, equally satisfying, and infinitely more surprising, as it relates to the pertinacity with which the ova of insects maintain their vitality, may be drawn from the fact, that the most intense heat does not deprive them of it. (See "Good's Anniversary Oration on the Structure and Physiology of Plants and Animals," p. 30-34, an. 1808.)

The pthiriasis interna is infinitely more singular in its ori-

gin than the dracunculus ; and, indeed, if we may rely on the account given of a case of it by Sauvages, from the information of a friend, it is a disease that throws much light on that part of physiology which relates to the ova of animals circulating through the human system, and at length hatching and giving birth under the skin to a diversity of insects. “ Illi ægro anno 1728 et 1729, quotidie prodibant ex oculis, auribus, podice, urethrâ, vulnere phlebotomiæ, pediculi, pulices, forficulæ araneolæ, lumbrici, scarabæoli, quorum icones mecum communicabat amicus.” (*Nos. Mith.*, tom. ii, 603.)

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## A CASE OF INDIGESTION.

*By Mr. BARKER, Stokesley.*

ON April 21st, 1835, I was called, at two o'clock in the morning, to see a Cleveland mare, that had been taken ill a few hours before. She was rolling about the stall, and sadly bruising herself. She had been bled, and some gin had been given to her. I inquired what she had eaten, and was told that her master allowed her a proper quantity of barley, but that the mare, being a favourite with the servant, he had been in the habit of giving her twice as much as he was ordered to do, and that this was probably the cause of her illness. The pulse was 70, and full and hard. I took away six quarts of blood, and gave a laxative mixture.

At four o'clock she was no better, and the pulse had risen to 82. I took four quarts more of blood, and gave an enema containing three ounces of tincture of aloes and a pint of castor oil. She became a little easier.

At eight o'clock the pulse had risen to 98, and I abstracted three quarts more of blood.

At ten o'clock the bowels had not been opened ; the extremities were becoming cold, the breathing was short and quick, and the mare was becoming very weak. I gave a scruple of croton oil.

At seven P.M. the physic began to operate ; the mare, however, refused all kind of food ; I therefore ordered her to be drenched with gruel, in order to assist the operation of the physic.

22d.—She is purging profusely, yet I do not like to interfere with the physic.

23d.—The working of the physic is beginning to subside, but the mare will not eat, and she is very weak. I then began to give her stomachic balls, and repeated them twice in the day. The mare soon began to feed, and did well.

*THE VETERINARIAN, FEBRUARY 1, 1837.*


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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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THERE is no part of the duty of the veterinary surgeon more connected with the comfort and the interest of his employer, than the examination of horses previous to purchase. As to the general character and capability of the animal, perhaps the opinion of a thorough sportsman would be more valuable. He sees at a glance what kind of horse will carry him pleasantly on the road, and gallantly in the field : but the anatomy of the animal—the connexions and relations of the different parts of his frame—the deviations which may not interfere with usefulness and with health, and those with which neither the one nor the other can permanently consist—the early indications of disease—the connexions and the progress of the various maladies to which the horse is subject—these have not, and could not be the objects of the sportsman's close and laborious study. And the veterinarian ought here to stand on his proper ground, and to render good service to his employer. Why is not that system of instruction adopted, and those habits, even within the collegiate walls, encouraged, and afterwards followed up, with all due regard to his respectability, his means, and his professional duty, which would enable the pupil to compete with the sportsman on his own ground, and to beat him on every other ? Why is not the riding-school an essential appendage to every seat of veterinary instruction, and the knowledge of the external structure of the horse, and the art of riding and managing him, and bringing fairly out all his excellencies and capabilities and defects, an integral and indispensable part of the veterinary surgeon's education ? Then he would be at home in his profession, and useful, and duly appreciated.

It is difficult to say why it should have been so, except that the veterinarian, or the instructor of the veterinarian, conscious of his deficiency in that which regards a material part of his

duty, has been anxious and systematically worked to cramp and limit its bounds and scope, so that the public may not detect that want of due preparation which ought never to have existed ; but what is the veterinary surgeon now called upon to give his opinion about ? What is he anxious to confine his examination to ? The powers and qualities, and probable adaptation of the horse for certain uses ? No : but his mere freedom from disease—his soundness or unsoundness.

If we alter our relative situations in life, is this all that we, becoming purchasers of horses, should like to get out of our veterinary friend ? No, no ! We should be a little disappointed, and somewhat angry too, if, being asked whether he thought the horse would suit us for certain purposes for which we wanted him, he were to turn upon his heel, and say, “ Why, really, I must decline to answer that question—that is not my province—I see no unsoundness about the horse, and I have nothing more to say.” That is the course which many veterinarians pursue, and they argue stoutly that they are right. It was deficient veterinary education—it was the consciousness of not having added the knowledge of the horseman to the science of the veterinary surgeon, that first led to this ; and they will be more useful, and more esteemed, and more employed, when the root of this evil is removed.

This, however, is not the point immediately pressing. It is ignorance and incapability of discharging that part of his duty, for which the veterinary surgeon must acknowledge that he ought to be in every point prepared, that is the crying sin now imperiously forced upon our attention. Disease he ought to be able to recognize in all its forms and in all its bearings, and particularly its bearing on the usefulness of the horse. Generally speaking, no appeal should be able to lie against his opinion on these points. There should not be the possibility of a tangible point of unsoundness being overlooked, or of a disease which has no existence being conjured up to the annoyance of the intended purchaser, or to the injury of the seller.

Now, in the present state of veterinary practice, has the person who consults the veterinary surgeon this security ? has the seller

this defence? or, rather, are not the prepossessions, the prejudices, the theories of different practitioners, with regard to certain points about the soundness of the horse, so notorious, that to take an animal for examination to two different veterinary surgeons, is to ensure two almost utterly different opinions?

There has been a lamentable case of this lately. In the action *Wolfe v. Elmore*, the most strangely discordant opinions were given as to the soundness or unsoundness of a certain horse. The present article would be too much lengthened if the whole history of this business were entered into. Professor Sewell's first examination of him in September presents a long list of very serious defects. There is not the detail of slight alterations of structure, and petty defects, which the eye of that gentleman is so quick in discovering, and which sometimes should not be dwelt upon when every thing else is right. Most of those which he mentions in his certificate, if existing, were real defects, and the existence of which could not consist with soundness.

The object of the writer will be too well answered, if the attention of the reader is limited to the examination of the same horse three months afterwards, and on the same day, by Messrs. Field and Turner. These gentlemen stand deservedly high in the opinion of their professional brethren, and of the public. The writer of this essay has long associated with them both, and will yield to no one in high estimation of their veterinary acquirements, and deep feeling of their personal worth.

These are their certificates, and the horse was examined by both of them on the same day:—

224, Oxford Street, Dec. 1.

I hereby certify that I have this day examined a grey gelding, sent here for Mr. Yates, and observe that he has a slight defect in the off eye, which prevents him from being considered perfectly sound; a splent on each fore leg; enlargement of the spavin place of both hocks, particularly the near, and a thrush in the near hind foot; but these do not at present occasion inconvenience in his action. He is about 9 years old.

J. FIELD, Vet. Surgeon.

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311, Regent Street, Dec. 1.

I hereby certify that I have this day examined a grey gelding, sent here by Mr. Elmore, particularly with regard to his hocks, and am of opinion

that the said gelding is perfectly free from spavins, and from lameness: but I observe a very considerable splent on the inside of his near foreleg, close to the knee joint, and his off fore foot is slightly contracted. The latter defects, I am of opinion, render him unsound.

J. TURNER, Veterinary Surgeon.

Would or could any one suppose that these gentlemen had been examining the same horse? "He has a slight defect in the off eye, which prevents him from being considered perfectly sound," says Mr. Field. He describes not the nature of that defect, but he pronounces him unsound in consequence of it. It is the only cause of unsoundness in Mr. Field's estimation. Mr. Turner sees nothing of the kind, nor do Messrs. Mavor, Langworthy, or Henderson, who examined the horse on the two following days. "He has enlargement of the spavin place of both hocks, particularly the near," says Mr. Field. "He is perfectly free from spavins," says Mr. Turner, whose attention had been particularly directed to this point. Neither of the other gentlemen says one word of the spavins. "He has a thrush in the near hind foot." Neither of the other four examiners have the least notion of this; but "he has a splent on each fore leg:" so says Mr. Turner, who condemns him as unsound, principally on this account. The existence of the splent is recognized by Messrs. Mavor and Henderson; but it is declared to be of a very trifling nature by the latter of these gentlemen.

"I find him," says Mr. Turner, "perfectly free from spavins; but he has a very considerable splent on his near fore leg, and his off fore foot is slightly contracted, and on both of these accounts he is unsound." Neither Messrs. Field, Mavor, Langworthy, nor Henderson, recognize the existence of this contraction, or the harm done by the splent. Mr. Turner, when questioned as to the splent, made his stand upon it, and regarded it as a fine specimen of the kind of splent which must be injurious; neither of the other gentlemen could see any thing injurious in it.

Now what shall we say of all this? Could this have been the same horse, examined on the same day by the first two gentlemen, and within three days by all of them:

Can such things be,  
And overcome us like a summer's cloud  
Without our special wonder?

We will not adopt, to its full extent, the strong language of a highly talented junior member of our profession, whose letter shall certainly have a place in our next number, and should have appeared in this, had it arrived in time:—"As to Veterinary Jurisprudence, a part of veterinary knowledge which it is of the utmost importance we should excel in, what is it? A by-word among the legal profession—a laughing-stock for the sensible portion of society—a blank in the pages of the veterinary dictionary—a stain on the character of the profession." This is strong language, not, we trust, yet applicable in its full extent. But this is certain—it is as clear as the sun at noonday—that it needs but a few more exhibitions of this kind to make the examination of horses by veterinary surgeons a perfect laughing-stock among horsemen.

Do we mean to impugn the judgment of these gentlemen? No, no!—their reputation as veterinary practitioners, and as judges of the horse, is sufficiently established in the opinion of every one that has to do with that animal; and, perhaps, we are not quite sorry that this *exposé* involves such men as these, and not others of less repute. It is the inevitable consequence of the system of veterinary education that has been hitherto pursued. The human surgeon is probably a few times, and a very few times in his life, called upon to give evidence in cases of medical jurisprudence; and that he should not then compromise his own reputation and that of the profession to which he belongs, he is compelled to attend a course of lectures of considerable length on this particular subject. The veterinary surgeon every day of his life, if he has much practice, is called on to give his opinion of the soundness or unsoundness of the horse, or of some other domesticated animal, and that opinion may be the subject of judicial investigation: and what instruction does *he* receive? Is he compelled to attend a course of proportionably greater length on the subject of veterinary jurisprudence?—or, considering the greater mystery which hangs over the examination of a dumb patient, compared with one who can answer our questions and dispel many a doubt, is the course still more lengthened?

Tell it not in Gath! When we were students at the Veterinary College, the whole course of instruction with respect to this

subject was comprised in half a lecture ;—now we believe that a lecture is devoted to it. Has no one seen the difference between regular systematic instruction, and snatches of knowledge hastily caught and imperfectly understood ? Has no one watched the different progress of two persons, one of whom was slowly and carefully and cautiously grounded in the principles which he studied ; while the other received only a few and irregular and confused gleams of light ? Here is the root of the evil, and it has existed far too long.

It would have taken some two or three lectures to have well grounded the pupil in the basis—the principle of soundness ; and it would have occupied many more to have applied this principle to the various organs and parts and diseases of our domesticated animals, and to have enabled the student to understand, in a general way, how far a deviation from natural structure and function involved unsoundness of constitution or unsoundness of action, and necessarily, or probably, or possibly, led to an incapability of performing the work, or arriving at the condition which we have a right to expect from them. The student is, in a manner, left to form his own opinion of what soundness or unsoundness actually is, and the application of the principle to the every-day affairs of his profession ; and then, instead of a comprehensive view of the subject, and a comprehensive examination, if we may use the phrase, of the animal submitted to his judgment, he acquires, or thinks that he acquires, a knowledge somewhat above his brethren on certain points and diseases. In consequence of this, his attention is not exclusively, but somewhat too much, directed to these points ; and he sees, actually sees, certain minute defects which escape the observation of others ; and he magnifies the molehill into a mountain ; or, he fancies that he sees that which exists only in his perverted fancy. Hence our discrepancies of opinion on the soundness or unsoundness of our patients—hence the woful exhibition which we sometimes make in a court of justice—hence the disgrace which we occasionally bring on the profession to which we belong.

Another cause of the compromise which is so often made of the reputation, we had almost said the honour, of our profession, is the difference of opinion which is not only well known to exist

between the heads of the College on the principle of soundness, but the almost systematic eagerness with which that difference of opinion is forced on the pupil and the public. Mr. Coleman regards unsoundness to consist in that alteration of structure and function which interferes, or is likely so to do, with the duty and usefulness of the animal. Mr. Sewell considers almost every alteration of structure as unsoundness. To such extent is this carried, that the advocates of these respective doctrines often cannot agree as to the plainest matter of fact. A mare was returned, on a certificate of Mr. Sewell that she was lame in the fetlock—she had ossification there. Messrs. James Turner, and Charles Turner, and Mavor, and Howard, said that nothing was the matter with the fetlock, but that she was perfectly sound. So contradictory was the evidence, that the judge ordered Messrs. Sewell, and Mavor, and Turner, to go into the court-yard and examine her again. On their return Mr. Sewell affirmed that the fetlock joint was still enlarged. Mr. Turner said that in his opinion the fetlock joint was not enlarged; and Mr. Mavor exclaimed, in a pet, that there was no enlargement at all. The whole court was convulsed with laughter.

So here, “the grey gelding,” says Mr. Field, “has splents and spavins, and a thrush, but they don’t hurt him. He is unsound in the eye.” “I beg your pardon,” says Mr. Turner. “There is nothing the matter with his eye, nor has he any thing at all like spavins; but he presents a beautiful specimen of unsoundness from splent, and he has a contracted heel.” “You are both wrong, gentlemen,” says Mr. Mavor: “I acknowledge that he has splents, but they are of no consequence, and in my opinion he is quite sound.” “The splents are mere trifles,” says Mr. Henderson: “he is sound enough.” “There is nothing at all the matter with him,” exclaims Mr. Langworthy; “he is as sound as a roach.”

How long shall these lamentable, these disgraceful exhibitions continue? How long shall the opinion of a veterinary surgeon with regard to the soundness of a horse be regarded as a by-word and a proverb? What will ere long become of this valuable portion of our practice, if our nonsense, our inconsistencies, and our incompetence, are thus blazoned to the world? There wants, and there must be, a radical reform here. If our teachers will

not effect it, the public soon will, and in a way not very pleasant to our feelings and our interest. The reform must commence with the education of the student. The most important part of that education must no longer be systematically, unaccountably, abandoned; and, ere long, by a better division of labour, by a more distinct classification of duty, those discrepancies of opinion which are not reputable to the masters, but most annoying and injurious to the pupils, must cease to be so often obtruded. We will return to this subject, unless it should soon employ a better pen.

Y.

### Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

BRIDGEWATER TREATISE.—*Geology and Mineralogy, considered with reference to Natural Theology. By the Rev. WILLIAM BUCKLAND, D.D.*

THE study of "Organic Remains" forms a most interesting and instructive subject of inquiry to the veterinary student, inasmuch that it is in them that we find the great master-key, whereby we may unlock the secret history of the Earth. They are documents which contain the evidences of revolutions and catastrophes long antecedent to the creation of the human race; they open the book of Nature, and swell the volumes of science with the records of many successive series of *animal and vegetable generations*, of which the creation and extinction would have been equally unknown to us, but for the recent discoveries in the science of geology.

Few facts are more remarkable in the history of the progress of human discovery, than that it should have been reserved almost entirely for the researches of the present generation to arrive at any certain knowledge of the existence of the numerous extinct races of animals which occupied the surface of our planet in ages preceding the creation of man. The rapid progress which, during the last half century, has been made in the physical sciences, enables us now to enter into the history of fossil organic remains in a manner which, till within a very few years, would have been quite impracticable. During these years the anatomy of extinct species of quadrupeds has been so extensively investigated, that our knowledge of the osteology of a large number of extinct genera and species now rests on nearly the same foundation, and is established with scarcely less cer-

tainty, than the anatomical details of those creatures that present their living bodies to our examination.

In the present treatise, the author has endeavoured at great length to prove that the extinct species of animals and vegetables, which have in former periods occupied our planet, afford in their fossil remains the same evidences of contrivance and design that have been shewn by Ray, Derham, Paley, and others, to pervade the structure of existing genera and species of organized beings; and we can hardly imagine that any stronger proof of the unity of design and harmony of organization that have ever pervaded all animated nature, than we find in the fact established by the greatest of all comparative anatomists, *Cuvier* — that from the character of a single limb, and even of a single tooth or bone, the form and proportions of the other bones and condition of the entire animal may be inferred. “The law,” says the reverend author, “prevails no less universally throughout the existing kingdoms of animated nature, than in those various races of extinct creatures that have preceded the present tenants of our planet; hence, not only the frame-work of the fossil skeleton of an extinct animal, but also the character of the muscles by which each bone was moved, the external form and figure of the body, the food and habits, and haunts and mode of life, of creatures that ceased to exist before the creation of the human race, can, with a high degree of probability, be ascertained.”

It would appear that the more perfect forms of animals became gradually more abundant as the world became older; that animals and vegetables of the lower classes prevailed chiefly at the commencement of organic life: and the very simple fact, that no human remains have ever yet been found in conjunction with those of extinct animals, may be alleged in confirmation of this hypothesis,—that these animals lived and died before the creation of man. Had the case been otherwise, there would indeed, have been great difficulty in reconciling the early and extended periods which have been assigned to the extinct races of animals with the present received chronology.

It would be impossible, in the present review, to give our readers a detailed account of any of the extraordinary animals that have been restored again to life, as it were, by the genius and industry of our author, and others who have preceded him; for to do this, we should require the assistance of some of the splendid engravings which occupy the whole of the 2d volume, and which contains more than seven hundred figures, beautifully executed.

In plate No. 5, we have a splendid engraving of that most extraordinary fossil creature, the *Megatherium*: the following concise description must suffice. The size of this extinct animal exceeds that of the existing *Edentata*, to which it is most nearly

allied, in a greater degree than any other fossil animal exceeds its nearest living congeners. With the head and shoulders of a sloth, it combines in its legs and feet an admixture of the characters of the ant-eater, the armadillo, and the chlamyforus; it, probably, also still further resembled the armadillo and chlamyphorus, in being cased with a bony armour. Its haunches were more than five feet wide, and its body twelve feet long and eight feet high; its feet were a yard in length, and terminated by most gigantic claws; its tail was probably clad in armour, and much larger than the tail of any other beast among extinct or living terrestrial mammalia. Thus heavily constructed, and ponderously accoutred, it could neither run, nor leap, nor climb, nor burrow under ground, and in all its movements must have been necessarily slow. Rapid locomotion could be of no service to an animal who obtained its food by digging beneath a broiling sun: its occupation was altogether confined to digging roots for food, and therefore almost stationary; and to a creature whose giant carcass was encased in an impenetrable cuirass, and who by a single pat of his paw, or lash of his tail, could in an instant have demolished the conguar or the crocodile, there could be no need of speed for flight from foes. Secure within the panoply of his bony armour, where was the enemy that would dare encounter this leviathan of the Pampas? or in what more powerful creature can we find the cause that has effected the extirpation of his race?

His entire frame was an apparatus of colossal mechanism, adapted exactly to the work it had to do; strong and ponderous, in proportion as this work was heavy; and calculated to be the vehicle of life and enjoyment to a gigantic race of quadrupeds which, though they have ceased to be counted among the living inhabitants of our planet, have, in their fossil bones, left behind them imperishable monuments of the consummate skill with which they were constructed. Each limb, and fragment of a limb, forming co-ordinate parts of a well-adjusted and perfect whole; and through all their deviations from the form and proportions of the limbs of other quadrupeds, affording fresh proofs of the infinitely varied and inexhaustible contrivances of Creative Wisdom.

K.

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VETERINARY STUDENTS WHO HAVE OBTAINED THEIR  
DIPLOMAS.

*January 25th, 1837.*

Mr. J. M. Corbet, Kilsyth, Stirling.

Mr. J. Waring, Liverpool.

Mr. J. B. Jones, Worcester.

Mr. H. Naylor, Worksop.

# THE VETERINARIAN.

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## ANIMAL PATHOLOGY.

*By Mr. YOUATT.*

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### LECTURE X.

#### *The Recurrent Nerves.*

WHEN the great spinal organic nerve, on either side, is entering the chest, it sends off certain branches, which, as soon as they have left the parent nerve, turn and assume a retrograde course, and climb up the whole length of the neck, and reach and ramify upon and bury themselves in the larynx. On account of this retrograde path these branches are termed *the recurrent nerves*. The places, however, at which, on either side, they quit the original nerve, do not precisely correspond; nor do they travel exactly the same course along the neck, or distribute themselves to the same parts; they must, therefore, be described separately.

*The Right Recurrent Nerve.*—This is first given off as the main trunk reaches the first rib, and after it has passed before the subclavian artery. It immediately takes a curved direction round and to the back of the artery, seeming as if it would surround it, and at the same time inclining towards the median line of the neck. It is afterwards found behind the common carotid and thyroideal arteries, and thus gains the side of the trachea. It gives filaments to the cardiac plexus, connecting the heart with the functions of the larynx, and accounting for that convulsive sobbing breathing which accompanies certain stages of disease, and is rarely missing when various maladies are approaching to their fatal close.

*The Tracheal Branches.*—As it climbs up the neck, the right recurrent gives many a branch to the trachea; and especially to the posterior part of it. There are not only branches which seem to ramify on the surface of the windpipe, but which evidently are piercing its coats, and distributing themselves on its interior surface, supplying the moderate degree of sensibility which this

tube seems to possess\*, bestowing power on the ligamento-muscular substance interposed between the rings of the windpipe, and governing the flexibility and variety of motion of which this elastic tube is susceptible. They likewise give power to that transverse muscle which is the tie that prevents the arch of the trachea from spurring out when pressure is made upon its crown; and which also secures the windpipe from laceration and rupture, when, in the utmost exertion of the animal's speed, and sometimes the diseased excitation of the respiratory organs, the current of air rushes furiously along. Finally, it may be by the influence of the recurrent branch that the transverse muscle is enabled to regulate the smoothness or the corrugation of the lining membrane of the windpipe, in accordance with the volume of the current, or the irritability of other surfaces over which it has to pass.

*The Œsophagean Branches.*—As the right recurrent nerve ascends the neck, it distributes several branches on the Œsophagus, bestowing on its muscular coat the power of contraction, and on the internal lining coat that of sensation. Experiments have proved this beyond the shadow of a doubt. By the action of the glosso-pharyngeal nerve the masticated food passes through the pharynx, and is forced into the Œsophagus; and food being

\* Many circumstances connected with the presence of foreign bodies in the trachea, or their occasional passage through it, would lead us to believe that there is not that exquisite sensibility of the lining membrane which some have imagined. The rimæ glottidis are watchful guardians to prevent the ingress of that which would be hurtful; yet their sensibility has probably been over-estimated. A probe has occasionally been passed from the pharynx to the bifurcation of the trachea, without any great degree of suffering being expressed by the animal. M. Braschet, in a work on the Ganglionic Nervous System, which ought to be in the hands of every veterinarian who understands the French language,—he would be rendering the medical and the veterinary professions a service who would favour us with an English translation of it—proves very clearly that the sensibility of the trachea, in whatever degree it may exist, is derived from the great spinal organic nerve. He effected an opening into the trachea, immediately below the larynx, excising a portion of the cartilage of the trachea: he then divided these nerves. The breathing was necessarily much impeded and disturbed, and was carried on through this aperture, the glottis having closed. He then introduced a little smooth ball of orris-root into the opening, with a thread attached to it, and this ascended and descended with every act of expiration and inspiration, without the dog seeming to experience the slightest pain. He then withdrew the ball, and held a vessel containing muriatic acid close to the aperture. This was continued during several minutes, and some portion of the gas was of necessity inhaled. No pain or inconvenience was expressed. A few drops of the acid were then introduced into the trachea; but there was no expression of pain. Acetic acid was afterwards used; but the animal stirred not. These experiments proved to demonstration that the sensibility of the trachea, and of the bronchi too, depended on these nerves, and was altogether lost when they were divided.

placed before the dog, and the nose and the mouth being stimulated by the smell and the taste of the viands, successive portions will be taken, and pass through the mouth and enter the gullet, and be forced along it by other portions of food driven on by the dorsum of the tongue and the constrictors of the pharynx, until the stomach and the œsophagus are perfectly filled. This has been put to the test of experiment. The œsophagus has been found distended with food—filled from the top to the bottom—and when the experiment has been pushed far enough, the stomach, too, has been filled. The influence of the recurrent nerve has been cut off, and although the smell and taste remain, and the power of the masticatory muscles, and, partially, the power of the constrictors of the pharynx, that of the muscles of the œsophagus has ceased, and even the very consciousness of the presence of food and the distention which it occasions. Nothing can be more satisfactory than this. Before this division, the muscles of the gullet would have been excited to forcible and spasmodic action, without any dictation, and in defiance of the control of the will, and the animal would appear to be threatened with suffocation every instant: but, the presiding power being withdrawn, not only one small portion of food is arrested in its course, but the gullet is crammed from one end to the other, and yet all is still.

*The Thyroid Branches.*—Before its journey is completed, this right recurrent distributes some branches to the thyroid glands resting upon the trachea and the larynx, and covered by the sterno and omo-hyoid, and the sterno thyroid muscles. They are of considerable size in the young subject, and they are, compared with their size, most abundantly supplied with blood. We call them glands, and probably they are so; but they have no secerning or excretory vessels, and appear to be little more than masses of condensed pulpy matter. They are much influenced by disease, and particularly by diseases of a scrofulous character, and occasionally assume a state of frightful enlargement and disorganization; but, as I am compelled to confess that I have no satisfactory notion of their functions, and that the crude ideas which I may have on this subject I cannot elucidate by experiment, I will therefore only say, that they receive branches from the recurrent nerve.

*Termination of the right Recurrent Nerve.*—The right recurrent nerve continues its course, and, arriving at the upper part of the neck, it is evidently making its way to the back of the thyroid cartilage. Ere it arrives at this point, it passes by the edge of the inferior pharyngeal constrictor muscle, and bestows some filaments on it; thus more closely identifying that muscle with the ultimate function of the recurrent nerve—to be presently described. Having now reached the back of the thyroid cartilage,

it separates into its ultimate terminating filaments: one goes to, and is lost on, the lining membrane of the pharynx, probably bestowing on it that kind of sensibility by means of which it is stimulated to contract on its contents. The other portion of the nerve passing through the foramen at the base of the superior cornu of the thyroid cartilage, ramifies upon the crico-arytenoidei muscles—posticus and lateralis, and upon the thyro-arytenoideus, all dilator muscles. It also communicates with filaments from the superior laryngeal nerve—the constrictor nerve—thus establishing a useful and a necessary connexion and sympathy between these muscles of contrary power, and, in the general course of things, limiting both to a safe and salutary discharge of their respective functions. Finally, this right nerve expends itself on the mucous membrane of the larynx, giving it that sensibility, be it more or less, and differing in various portions of it, which is indispensable for the discharge of its important duties, whether the modulation of the voice, or the regulation of the respiratory function is concerned. In the substance of the dilator muscles, and of the mucous membrane of the larynx, it meets and freely anastomoses with the terminating filaments of the left recurrent nerve; and they both unite in the dilatation of the larynx, and the communication of sensibility to that organ.

*The left Recurrent Nerve.*—The great spinal organic nerve proceeds a little way into the chest before it gives off the left recurrent. It is opposite to the superior margin of the anterior aorta that the left recurrent arises, and in commencing its retrograde course it coils round the root of the posterior aorta, including that vessel, as it were, in a sling, as Mr. Percivall graphically describes it. It now passes externally and posteriorly to the ligamentous remains of the ductus arteriosus; after which “it is found between the transverse portion of the arch and the trachea.” Its early branches have a different destination from those on the right side, being destined to form a part of the inferior (anterior) pulmonary plexus, in order to establish a connexion between the lungs and the larynx, parts so essentially connected with the act of respiration, and placed at a considerable distance from each other. Other filaments are given from the left recurrent nerve to the cardiac plexus, still strengthening the connexion between the important and inseparable functions of respiration and circulation. As the left recurrent ascends the neck it comes more immediately into contact with the œsophagus, which lies on the left side of the neck, and that tube is most indebted to the left recurrent nerve for its sensibility and muscular power, as the trachea owes most to the right recurrent. Many branches, however, are given to the trachea as the left recurrent

pursues its course. Having arrived at the larynx, the ultimate distribution of its filaments is the same as that of the right recurrent: they both supply the dilator muscles of the larynx—they both give sensibility to it—and they both anastomose with the superior laryngeal nerves, in order to maintain that balance of power which is necessary to the well-being of the animal.

*The general Function of the Recurrent Nerves.*—We now, perhaps, are enabled to arrive at some satisfactory conclusion with regard to the singular retrograde course which these nerves pursue. They are designed, in conjunction with the superior laryngeal nerves, to govern the contractions and dilatations of the larynx. The larynx is a beautiful piece of mechanism, by which the entrance into the canal leading to the lungs is guarded, the passage of extraneous bodies prevented, and that quantity of air which the immediate wants of the animal may demand admitted. There is a powerful and a salutary principle prevading the whole of the frame, namely, sympathy; by the influence of which the functions of the different organs are so regulated and controlled, that the well-being of the whole is promoted and in a manner secured; but for the perfection of a function connected not only with the well-being but with the very existence of the animal, something more than the power of sympathy with distant organs is required: there must be a direct connexion, in order to unite the different parts of the machine in consentaneous and healthy action. It is, therefore, not only a very important consequence, but it is the very object and design of the devious course which the recurrent nerve pursues, that the different portions of the respiratory apparatus are brought into immediate connexion with each other, and thus a salutary uniformity in the action of each is secured.

The inferior laryngeal nerve is connected with, or, rather, it directly influences, every motion and feeling of the trachea—of the transverse muscle—the interposed ligamentous muscular substance between the rings—and the sensibility of the whole of the lining membrane. By anastomosis with, or forming a part of, the pulmonary plexus, it is identified with the state of the bronchial tubes, and the bronchial membrane, the perviousness or imperviousness of their minute ramifications, and the quantity of air by which the terminating cells are distended; and, farther, by means of the cardiac plexus, the influence of the great central machine, whether in a state of excitation or of debility, is also communicated. The nerve also (the right recurrent nerve) by means of which all this important information is obtained, not only communicates with its fellow on the membrane of the larynx, but in the substance of every one of both the constrictor or dila-

tor muscles; and thus by means of all this seemingly complicated but really simple machinery, a co-operation between every part of the respiratory apparatus is procured, adapted to produce and to secure the perfect working of the whole.

*The Division of the Laryngeal and Recurrent Branches.*—Many experiments have been tried with regard to the division of the superior laryngeal, and the recurrent nerves. If the superior laryngeals are divided, the action of the constrictor muscles is lost; but the dilators continue to act without any antagonist power. The consequence of this is, that the voice is rendered hoarse, the glottis is permanently expanded, and portions of food enter into the trachea, producing distressing cough, and sometimes threatening suffocation. If the recurrent nerve is divided, the antagonists of the constrictors are removed. The glottis is closed—no air can enter or escape, and not only the voice but life itself is lost. In all experiments, therefore, in which the division either of the recurrent branch or the main trunk of the great spinal organic is required, an opening is previously made into the trachea, below the larynx, in order that respiration may not be suspended, and the animal destroyed.

*Roaring, as connected with the Larynx.*—Among the various causes of roaring, we look to the larynx, as furnishing us, if not with the most frequent yet the most decisive. In some cases there is ulceration on the rimæ glottidis, or within the cavity of the larynx; and the glottis sympathising with every part by means of the numerous connexions that have been stated, and more particularly with the membrane in its immediate neighbourhood, is spasmodically contracted, in order to preserve the denuded and irritable surface beneath from too violent a current of air falling upon it and inflicting pain. The passage of the air through the contracted orifice is accompanied by this peculiar sound.

Among the other mischiefs produced by tight reining, and the brutal system of breaking that is occasionally adopted, are compression and distortion of the larynx. It is sometimes so much deformed, so much bent and twisted on one side, that the muscles on that or on the contrary side lose all power of contracting or dilating the larynx; and then they follow the law by which muscular action in every part of the frame is regulated; they waste away for want of use. The muscles on the other side increase in size in proportion to the additional labour imposed upon them. The consequence of this distortion and unequal action of the muscles is, that neither the dilatation nor the closure of the glottis can be perfectly accomplished, and the air rushes through the partial opening, and the sound of roaring is produced.

## THE INFLUENZA OF 1836.

By PROFESSOR STEWART, *Andersonian University, Glasgow.*

FOR three or four months back, the influenza has been very prevalent all over the west of Scotland. In the east, I understand, it has been comparatively scarce. In this quarter we are never entirely quit of it at any time. During the first nine or ten months of 1836, the cases were much more numerous than usual. But in November, December, and January, the disease raged to an unexampled extent. It suddenly invaded stables in all parts of the town; and wherever it appeared, it generally spread over the whole stud. Some escaped, but not many. It is now on the decline: the last fortnight has afforded few cases.

As it has prevailed here, and hereabout, the influenza is not a new disease. It is the same influenza that we always have, especially in spring and in autumn. If it was not contagious before, it is so now; but its increased or its new tendency to spread does not entitle us to regard it as a strange disease. There may be a little difference, but the resemblance is general. The disease has been very common in the country, but not so generally contagious. In some stables there has been only one patient, but in the town all, or nearly all, the horses have been attacked wherever the disease has been introduced.

There are two *kinds* of influenza. In both, the horse is fevered; in both there is inflammation of a mucous membrane; and in both the fever, or some other abnormal state of the system—which I shall call *prefebrile*—precedes, or follows, the inflammation. In the one kind, the inflammation attacks the eyes, the nostrils, or the throat; it is confined to the head, and may be termed the *cephalic influenza*. In the other kind, there is inflammation in the lining membrane of the bronchi: this may be called the *thoracic influenza*.

The *prefebrile stage* is very often overlooked or neglected. I have never seen it described. For two, three, or four days, and occasionally for so many as eight, the horse is dull, feeble, sluggish, staggering in his gait; his coat is dry, and it starts on end after drinking, or upon the least exposure to cold; he sweats soon; a little exertion quickens the breathing; the pulse is very little if at all altered; the eye and nostrils are not redder (often they are paler) than usual; the horse eats his corn, but refuses a part or all of his hay; he is eager for water; when closely watched in the stable, he may be observed to yawn frequently; and at intervals he makes a deep inspiration, like a

sigh. These are the first symptoms. Their duration is uncertain. It varies from one to eight days ; but in general there is a change on the third or fourth. Fever succeeds, accompanied or soon followed by inflammation. What is going on in this prefebrile stage cannot be told. In vulgar language, the disease is said to be working or brewing ; and I know not that science can give a more expressive name. I have sometimes thought I could detect inflammation lurking about the throat or the bronchi. The throat, at least, is often tender, and the nasal membrane flushed immediately before the fever is developed. Rigor, as an antecedent of influenza, has not, to my recollection, come under my notice for two or three months.

The *febrile symptoms* are well known. The hot mouth, hot surface, quick pulse, scanty secretions from the bowels, kidneys, mouth, skin, lungs, and other organs ; the flushed eye, and the scarlet nostril ; the prostration of strength, and the aversion to food, require no description. When these symptoms are present, the horse is fevered. They belong to all fevers ; but in influenza, especially the thoracic influenza, the debility is excessive and characteristic. The horse is weak from the beginning, and debility increases as the disease advances. The fever is seldom, perhaps never, fully developed till inflammation is established ; but in some cases the inflammation is not apparent, possibly it does not exist, till the horse is fevered for one or two days. In some, the fever comes on very suddenly, runs high, and soon reaches its acme. In others, it advances by slow degrees, and is not fully developed till after four, five or six days. In these cases the febrile commotion is not generally so great as in the others, but convalescence is slower. In a great number of cases the horse is so slightly fevered that he requires no medical treatment. In one stable there were above fourteen horses attacked. Eight or ten of these did a portion or the whole of their usual work, which was slow and not very laborious. They all lost flesh very rapidly, and were, indeed, shamefully emaciated. The fever was gone when a practitioner was called to treat the emaciation. They recovered, however, some of them receiving cordials and continuing their work. Some of the others were bled ; one or two were laid up ; but I believe the result would have been nearly or quite the same although nothing had been done. The disease was in a mild form, and there have been very many cases of the same kind.

*Progress of cephalic Influenza.*—The prefebrile stage is of short duration ; very often it is not observed ; perhaps it does not always occur ; sometimes a shivering fit is the immediate and possibly the only antecedent of the fever. The fever itself is sud-

denly developed, accompanied or rapidly followed by inflammation of the eye, the nostril, or the throat—one or all. The conjunctiva becomes intensely red, the eyelid swollen, everted, closed; tears run down the face, and light is painful. This inflammation of the conjunctiva is never permanently injurious. It usually declines as rapidly as it rises. When the nasal membrane is inflamed, it becomes red or scarlet; water flows from the nostrils, and scalds the skin. In two or three cases there have been patches of ecchymosis, and, though not lately, abrasions and ulceration, all, I suppose, arising from intense inflammation. It frequently proceeds to suppuration, producing a copious discharge, which is generally yellow, but sometimes greenish or bloody, and offensive. So soon as suppuration is established, the fever declines, and the horse recovers his strength and spirits almost immediately. The discharge has sometimes continued for several weeks, but has been permanent in none. Sulphate of copper was given in two or three cases. When the throat is inflamed, there is cough, or difficulty in swallowing; one or both, with or without enlargement of the parotids. In two cases the pharynx alone seemed to be inflamed. Deglutition was suspended, but there was no cough. When the larynx is the principal or sole seat of inflammation, the cough is distressing, but free and loud. It often remains for a long time. Several have it now that are at work and quite well. I fear that in some of them it is settled.

In several cases the eye, throat, and nostrils, have all been intensely inflamed at the same time. But in general one has been much worse than the other two. Of late, the inflammation of cephalic influenza has attacked the nostrils and the throat more, a great deal, than the eye.

The treatment consisted in copious depletion, gentle laxatives, spare diet, and throat blisters. The blister I often apply more as a precaution against inflammation to come, than as a remedy against that already existing. I think it fixes inflammation to the skin.

The cephalic influenza is often combined with the thoracic, or the latter follows the former. Still, each occurs as an individual disease. I have never seen the cephalic produce death. But, if the horse go to fast work with the fever on him, a little destroys him. He dies, overmarked, from work that would not have been injurious had he been well.

**THORACIC INFLUENZA.**—It is this kind that has prevailed so much of late. I have seen no account of it, save that given by Mr. Turner in the debates of the Association. His opinions regarding the seat of the disease and its treatment are given in

the January VETERINARIAN. So far as he goes, he is correct. He must have seen the disease with his own eye, and made dissections with his own hands. He could not have told what he has told, if he had been a follower of other men.

The prefebrile symptoms are well marked. If the horse be at work, they must be seen. In general they are visible from one to four or five days before the fever appears ; that is, before the eye reddens and the pulse quickens. The rider or driver complains that his horse is dull and weak ; upon inquiry it is found that he has not been eating his hay, and perhaps not all his corn. The other symptoms are more or less marked. The duration of this stage is shortened by putting a working horse to rest. At slow work, I have often seen a horse ill for three or four days, without any sign of fever, which was suddenly developed after he was laid up for twenty-four hours.

Most frequently the fever *steals* upon the horse. In the cephalic influenza, the horse is well at night, and eats his corn ; next morning he is ill, and refuses all food. But the fever of thoracic influenza advances in slower measure. Most usually the horse eats a portion of two or three feeds before he abstains entirely ; and it is some days before the pulse reaches its greatest quickness. It may continue to rise for three or four days, till it reach 70 or 80. In the cephalic disease it often rises so high in one night, the heat of the body is always greater, and the debility is not in such excess. The quick pulse, the weakness, and the comparatively low temperature of the skin, are characteristic of thoracic influenza. The skin is always warmer than usual, but it is not so hot as in other diseases, when the pulse is equally quick. As the fever advances, symptom after symptom becomes more clearly established. The redness of the eye and the nostrils deepens, the prostration of strength amounts almost to palsy ; the pulse runs up to 75, 80, and in severe attacks to 90 or 95 ; it is small, and not easily counted, yet the artery is sufficiently perceptible. At the beginning, the breathing is often undisturbed, and in a few cases it never becomes very quick. In many, it becomes excessively hurried in the height of the fever, or immediately before death. In all cases it is more or less quickened from the time the pulse rises ; but in some there will be only 12 respirations per minute, while in others there will be 35 or 40. The breathing is always quickest when the inflammation spreads from the head, or is seated chiefly in the large branches of the windpipe. When it is confined to the minute branches, respiration is comparatively slow. The extremities are usually warm. Sometimes three will be hot, and one cold ; at other times, one or two will be hot, and the remainder cold ; often

they are all cold in the morning and hot at night. The horse always drinks a good deal, but he is not seriously ill when he eats either mashes or hay. He may, however, be often tempted to eat articles of which he is very fond, such as carrots, furze, boiled barley, beans, &c. The mouth is hot, dry, clammy, red, and occasionally tinged with yellow. The eyes also are often yellowish, particularly at the beginning. The evacuations are not altered in colour or consistence; at least they present no appearances which may not be observed in health. They are often retained, the horse, perhaps, passing a whole day without emptying either bladder or rectum. There is rarely any cough; when there is, or when coughing is excited by compression of the larynx, the sound is low, stifled, gurgling, interrupted, and sometimes the effort is painful. The horse rarely lies down. For a few minutes he may, at an early period, especially if he does any work after he is ill; and at a later stage of the disease he sometimes lies down from abdominal pain; but in nine cases out of ten he stands night and day, from first to last. The blood, when drawn, is always dark coloured; it is so even in the prefebrile stage, though not very decidedly. In fatal cases, the blood is absolutely black, and thick as treacle for some time before the horse dies. The vein fills slowly, and the blood escapes in drops. It is exceedingly cohesive, sticking to the fingers, and uniting with the hair like glue,

When the horse is to live, the symptoms, after an uncertain period, remain stationary. He is in much the same state for two, three, or four days. Then he becomes more lively, the eye less red, the pulse softer, the artery not so easily felt, yet broader and softer when it is felt. The heart may continue to be very irritable for several days longer. Before the number of pulsations decrease, there is usually some irregularity in the action of the heart. It beats as quickly as before, but it pauses, omits several strokes every now and then, perhaps at every twentieth stroke. This is a good sign, and in this disease it is entirely independent of medicine. The horse gradually returns to his food, moves about, recovers some portion of his strength, but seldom lies down till eight or ten days after he appears to be out of danger.

When the horse is to die, his pulse continues to rise till it passes a hundred; the breathing gets quicker; the horse expresses no pain, yet his countenance indicates extreme dejection. He stands for hours together without moving a limb, heedless of all external objects, and shewing no desire for any thing, except perhaps for water, when he casts a languid glance behind him upon hearing a pail in motion. If very heavy, he sometimes lies down, and in this stage he requires assistance to rise. He

seldom lies so long as fifteen minutes. As death approaches, the pulse becomes exceedingly small, hard, and quick. It can be counted only from the heart. A few hours before death, the horse usually becomes uneasy; his breathing is very laborious, and perhaps he has pain elsewhere. He is restless, thrusts his muzzle against the keeper, as if he desired to attract attention or implore relief. The eye betrays suffering as plainly as speech could tell it. The horse generally retains his senses till he dies; but sometimes his vision and hearing appear to be affected, and he executes movements indicative of delirium. At the last hour his breathing is laborious, in an extreme degree; he trembles, staggers, reels about, sinks on his haunches, rises, prepares to lie down, again recovers his feet, endeavours to stand, falls, gasps, and after a few struggles to rise, he expires.

Upon *dissection* the cellular, muscular, glandular, nervous, all the vascular tissues of the body are tender, easily torn, and gorged or stained with thick black blood. This is particularly the case when the horse has died without bleeding. When he has died purging, the discoloration is not so general, but the soft, flabby, tender state of the muscular fibre is still more apparent. The bladder is seldom empty. The stomach and bowels always contain much fluid, as much, to all appearance, as the horse has drunk for several days before. The kidneys are never diseased, neither is the liver. This organ, indeed, is tender, and full of blood; but it is the seat of no more disease than the muscles. The lungs present various lesions. When the inflammation has been confined chiefly to the large bronchi, the lungs are large, much larger than usual; they fill all the chest; their external surface is little altered. Upon opening the bronchi they are found full of white or reddish froth, which often extends along the whole course of the trachea, and into the head, filling all the cavities. When the horse is not examined till twenty-four hours or more after death, this foamy froth escapes by the nostrils, and forms a pool around the muzzle. It is forced out as the body cools. In addition to this, the bronchi usually contain some bloody purulent matter. The lining membrane is always intensely inflamed; in some places it is black, in some green, and it is red only where the inflammation has been least. In cases of this kind the horse is never very ill till within a day or two of his death. He dies suddenly, and gasping with his mouth wide open. When the inflammation has been confined to the minute ramifications of the windpipe, the lungs are not larger; their external surface is very dark; they look as if they had been inflamed, some parts are solid, the bronchia obliterated, or full of bloody pus, mingled with a little air. When the lung is solid, some of

the bronchial tubes may be traced, and their lining membrane found in union with a dirty reddish or yellow lymph, by which they are filled up. In those places where the inflammation has not proceeded so far, the membrane is distinct, and intensely inflamed or gangrenous, covered with bloody pus. When the horse lingers, which he frequently does, the inflammation being intense, but not extensive, the lungs are tuberculated, studded with tubercles in different stages of their progress to suppuration, and of different sizes. Sometimes no tubercles are to be found; the lung is black, soft, short, the finger makes a cavity in its substance, and that cavity fills immediately with pus and blood; the air-tubes are full of lymph, the bloodvessels are full of coagulated blood; perhaps the pus comes from very minute branches, not seen by the naked eye. The heart contains thick black semi-fluid blood on both sides, and a little is found in the aorta. The brain I have never examined. The state of the lungs almost forbids further inquiry.

Regarding the *seat* of the disease, there cannot, surely, be any dispute; any man who has taken the trouble to examine the body with care, that is, by slitting up the tubes, knows what to think. I have been at dissections where the seat of the disease was supposed to be in the head, the liver, the bowels, every place but the bronchi: the lungs were pulled out by an assistant, and thrown aside untouched, with the remark "slightly congested;" but when these same lungs were cut up, the bronchial membrane, and the contents of the bronchi brought to view, a single word was superfluous,—the ravages of disease were revealed in language stronger than description can use.—When a man wants to discover the seat of an unknown disease, he must look at all parts; he should put off his coat and examine the body himself, shutting his assistants on the outside of the door till he has done. A veterinarian, to be a good practitioner, should be a working man.

The inflammation of the bronchial membrane sufficiently accounts for the state of the blood. The membrane by which it should be purified is unfit to perform its function; and the blood passes through the lungs little altered. The extreme debility, the torpid state of the muscles, of the bowels, of every part, the diminution of sensation, organic and animal, the absence of pain, the comparative tranquillity of respiration, and coolness of the skin, are all to be attributed to the state of the blood. Defecation does not take place, and the muscles cannot contract, the nerves cannot feel, and the glands cannot secrete. To the symptoms produced by impure blood add those that would accompany an equal degree of inflammation in any other

important organ, and you have all the constituents of thoracic influenza.

The *cause* I do not know. Contagion is a fertile source, and I cannot say that I have been able to trace the disease to any other. Sometimes I have blamed exposure, bad stables, general bad management, and other agents; but I have seen horses again and again under the influence of suspected agents without suffering as I expected they would suffer. Wherever the disease has appeared, it has, with a few exceptions, gone over the whole stud. In many large studs, quite contiguous, but not connected with diseased stables, there has been no influenza. In one containing twelve horses, ten took the disease; it was double-headed, and the disease went over one side before it invaded the other; at least, only one on the first side remained well when the others began to be affected. In another stable fourteen out of sixteen horses took it; and in the majority of smaller stables, none have escaped. There is often, however, a considerable interval between the first and the last. In one stable of eleven horses only two took it; but that was before the disease became so prevalent. In a stud of about one hundred and twenty horses, one came off a journey with the disease. He was kept out of the yard, and he was the only sufferer.

THE TREATMENT OF THORACIC INFLUENZA is soon described. In the prefebrile stage I bleed, and give a laxative, and stimulate the throat, putting the horse by himself, if possible, in a loose box, and on fever diet. I am not sure that it is the best practice to bleed in this stage. The fever, when it comes, rarely runs high; but it is never prevented by bleeding; I should rather say I have never seen it prevented. I have tried stimulants, the ammoniacal carbonate with ginger, but their effect has been doubtful. The truth is, few patients come under treatment in this stage, and I have not been able to make many experiments. So far as I have yet seen, depletion is better than stimulation.

After bleeding and so forth, I wait till the fever appears. If the pulse continues to rise, after it has reached 65 or 70, and particularly if the eye is very red, I bleed again. In several cases the first bleeding has appeared to subdue or arrest the disease, while yet in the prefebrile stage. The horse has become more lively, he has eaten up his mashes, and recovered a portion of his strength; on some fine day he has gone to exercise or gentle work, and got corn as usual; then, on the next day, he has been in a high fever. There have been bad cases. In two there was hydrothorax, and death. Relapse is always dangerous; but I dread it most when the fever has never been developed.

The treatment of the febrile stage is little different from that of the prefebrile. I make one copious bleeding, give a laxative, and blister the throat. The laxative consists of three, never more than four, drachms of aloes. If the pulse is very hard, and the fever in its second or third day, I apply the blister to the sides. For food, the horse gets raw carrots, mashies, and hay; I do not care about his eating much till the disease is declining, when there is no objection to coaxing him with articles of delicacy. Furze at this season is procurable in some places, and all horses eat it. It is too good when the fever is high. A few stalks of broom (*spartium scoparium*) are added when the horse drinks much, or when there is cellular effusion. It is a strong and safe diuretic. It unloads the bowels and the cellular tissue. In hydrothorax it is valuable. For drink, I let the horse have gruel or tepid water, as much as he pleases, often given, so as to quench his thirst, but not in such measure or temperature as to produce colic. The legs are bandaged, even when warm. They should not be allowed to cool. The horse is separated, when possible, from others; but unless he can be put into a comfortable box or stable, he may be safer in his own stall. A damp outhouse is dangerous.

I endeavour to see these patients every twelve hours; a few require closer attendance. If the pulse is above seventy at the first bleeding, and rise ten beats higher in the next twelve hours, I bleed again. If only sixty or sixty-five at first, I do not much mind a rise of five or ten beats; but if it continue at the same rate till the end of eighteen or twenty-four hours, I again bleed. If it be the same as when first bled, I wait twelve hours longer; and if it were above seventy before, and be seventy, twenty-four hours afterwards, another bleeding is indicated. After two bleedings, or at the end of forty-eight hours from the last, I look to the eye more than to the pulse. If very red at first, and the pulse high, the treatment must produce a change in forty-eight hours; if paler, and the pulse slower at first, there may be no danger, or the horse may be doing well at the end of this time, although there may be little change. In general, the higher the fever is when it comes under treatment, the sooner must the treatment produce a change. With a pulse above seventy on the first day, the eye ought to be paler on the third; with a pulse not exceeding sixty, the eye may be the same; and farther treatment must be guided by the pulse. As long as the pulse continues to rise above seventy, and the eye to redden, a bleeding is indicated every twelve hours. I very rarely wait longer; but I have often rued delay.

If a second bleeding be indicated, it must produce a more decided effect than the first. Less blood can be taken, but less will

do. If the disease is not arrested by the first, it can hardly be expected that it will be arrested by the second, unless the second produce more effect. In repeating the operation, I have never regarded the debility of the horse, nor the quantity of blood previously lost.

In very many cases one full bleeding is sufficient; many, however, require two, some three, and occasionally I have bled the same patient four times in three days. I rely chiefly upon the bloodletting, but do not disregard aids, such as counter-irritants, laxatives, febrifuges, and stable comfort. Bloodletting is unnecessary when the pulse softens, when the eye gets paler, or if the fever be not very great when its progress seems to be arrested. There are cases in which bleeding is forbidden; however high the pulse, or red the eye, if the skin is considerably below its natural temperature, bleeding merely hastens the approach of death. When the pulse is above ninety-five, the eye red, and the skin cool, the horse has little chance of recovery, and none if he suffer bleeding. Indeed, while in this state it is difficult to take blood from him; the vein can hardly be seen, and the blood trickles as if from a scratch in the skin. It is almost foolish to attempt a cure in such a case. The loss of one or two quarts produces giddiness. If there be any remedy for a horse in the last stage of this disease, it is not known. No ordinary treatment can be of any service, and the practitioner merely hazards his reputation by attempting any.

If *purgation* can be produced when the horse is in the febrile or in the prefebrile stage, he is all the better for it; but it must be produced by only half a dose. In this disease, a half-dose usually produces as much effect as a full dose in health. A full dose is very dangerous, more dangerous than if a healthy horse were getting a double dose. Many horses that might have recovered have been destroyed by the groom's dose of physic, or the blacksmith's bottle of oil. Several, however, have withstood this improper treatment. Purgation is most hazardous when the fever is at its greatest altitude. Even a half dose occasionally operates too violently. While there is no abdominal pain, I seldom attempt to arrest the purgation. One horse purged four days, another six. The first had slight attacks of colic. He was closely watched, and whenever the pain made him lie down he had a ball of ginger and carbonated ammonia. On the fourth day, the eye being blanched, purgation was stopped by the acetate of lead. Opium is a dangerous restringent in these cases, particularly when the eye is red. The second horse lost flesh more rapidly, and he had more to spare; there was pain, almost every night, of a severe kind. It was allayed by the stimulating ball;

but it was the sixth day ere I considered it safe to arrest the purgation. Water, for which he was very eager, was withheld : it always, and immediately, increased the purging. A third horse purged for eight or ten days after a bottle of oil. The fever was gone a day or two before purgation commenced ; and acetate of lead, combined with ginger and gentian, was given every day. I apprehend more from the pain which usually accompanies purgation, than from the purgation alone. When arising from cathartic medicines, it must be checked by the stimulant which allays it under other circumstances. Acute pain, with or without purgation, usually destroys the horse in about two hours.

Of *Febrifuge Medicine* I use very little. Tartrate of antimony, digitalis and hellebore, are apt to excite colic or purgation, especially when given two doses in a day. I use them only when I think the bleeding has not all its usual power in softening the pulse and blanching the eye. I give none till I am sure the laxation has done all it can do ; and I never give more than one dose in twenty-four hours. I use only the digitalis and the tartrate. The hellebore seems to have no certain effect.

*Blisters*, I think, are of more service. If I get the patient early, I blister the throat ; if at a later period, or if the bronchial inflammation appears too extensive, I apply it to the sides. For setons, tents, and rowels, I have the most perfect contempt. However large or numerous, a blister has a more rapid, more extensive, and more permanent effect ; and if only one or two setons are employed, the pain of inserting merely them agitates the horse to no purpose. I can hardly refrain from despising a man who talks of their utility in a disease like this.

Frequently the blisters will not rise. In such cases I give stimulants, chiefly ginger. They render the eye redder, and perhaps aggravate the bronchial inflammation ; but when the horse is so ill that the blister will not operate, something must be hazarded. The stimulant seems to have considerable power in rendering the skin more irritable.

*Stimulants*, however, are to be dispensed with when possible. Except for allaying abdominal pain, or rousing a blister, they are not admissible when the eye is red or the pulse hard. I have tried them in several other cases, and in different stages, but do not like them. I cannot believe that they will cure bronchitis. When the fever and inflammation are declining, they may be given with safety. In convalescence the horse is often very dull ; he is recovering slowly, and is looking ill, and his owner is in a hurry ; or perhaps the horse has no appetite, or his belly is out of order, the dung pale, and the bowels noisy. In such cases stimulants do good, though not much. Gentian, allspice, and tar

are the best. They rouse the stomach and bowels, and then act upon and give energy to other organs. The mouth should be moist, the skin cool, and the pulse soft, before they are given. The carbonate of ammonia is very useful. It appears to create an appetite, to allay abdominal pain, and to give the horse some vivacity without hardening the pulse or heating the skin. But I do not like it while the horse will bear bleeding.

THE COMPLICATIONS AND UNUSUAL RESULTS of Influenza are rather numerous : I can do little more than mention them. The Cephalic and the Thoracic are often combined from the beginning, and very often the latter follows the former at the distance of several days. When the bronchial inflammation becomes intense, that of the head usually declines. But if the patient dies, the cavities of the head, frontal and nasal, the trachea, and the large branches of it, are all much inflamed and filled with froth. This combination is very common, and easily understood. Pneumonia appears to be present in all the cases that have rapidly run to a fatal termination. But the inflammation is frequently said to be in the lungs when the discoloration arises chiefly or entirely from inflammation in the minute bronchia. *Founder* has not been so common as it usually is in purely pneumonic attacks. I have had only two cases; they were, however, of great weight. *Abdominal pain* has occurred very frequently. I have seen no case in which it existed at the beginning. The horse has always entered the febrile stage, and been in it for a day or two. Sometimes the pain is very acute; sometimes merely a passing pang, producing no mischief. When severe and lasting, the pain always quickens and hardens the pulse; and, unless quickly removed, it destroys the horse. The stimulating ball, composed of carbonated ammonia and allspice, is the best remedy I know of. The dose is four drachms of the former and three of the latter. The dose may be repeated every fifteen minutes till the pain be quelled, or till death is inevitable. I am at a loss to discover the cause of these pains : I used to attribute them to medicine previously given; but I have seen them often where no medicine had been administered. Perhaps the large quantity of fluid contained in the bowels may excite distention or spasm at particular places where it accumulates. There is no gaseous distention. *Pleuritis* has occurred in three or four cases : in two, the patients were neglected. They were far gone before they came under treatment. But they seemed to be doing very well for two or three days, till, all at once, the pulse rose, hardened, and the breathing became pleuritic—the costal cartilages forming a ridge along the flank, the expiration prolonged, the inspiration incomplete, the flank not fairly let

down. Both died. The pleura was much diseased ; in one the bronchi were gangrenous ; in the other, which lingered for a good while, the bronchi were nearly or quite sound ; but a portion of the lungs was solid, apparently from obliteration of the air-tubes. Except from relapse or neglect, there has been no case of influenza in combination with pleuritis and hydrothorax. *Diabetes* has occurred in several cases, always at the decline of the disease. It required treatment in, I think, only three. *Hepatitis* has not been seen by me : I have heard of it from others, but I do not believe that the engorgement and tenderness of the liver have any connexion with inflammation in its substance. *Cellular effusion* has been very rare. In a few cases the legs, sheath, and brisket, have swelled, but in a much less degree than usual after a sharp attack of pneumonia or influenza as it prevails in spring and autumn. I do not understand these serious effusions ; but I am disposed to believe that hydrothorax, ascites, cellular effusion, and perhaps diabetes all arise from a particular state of the system, more than of the organ by which the fluid is furnished. This, however, is merely conjecture. *Glanders* and *farcy*, in a very acute form, have been connected with influenza ; but you, Mr. Editor, and your readers, will easily understand why I am silent regarding them.

The fatality of the disease has not been very great, considering the number of cases. In my own practice I have lost only eight. I do not know how many have come under treatment ; I have no list, and cannot remember more than between 150 and 160. But between neglect and the bad treatment of quackery, the deaths have been sufficiently numerous ; so many have died, that, notwithstanding the high price of provender, all kinds of horses are dearer than usual.

*Auscultation* might be of much service to us in this disease : it ought to be studied in veterinary medicine. I have long been in the habit of sounding the chest ; but my progress has been so small, that I cannot venture to make any remarks about it. I cannot describe the sounds, and some of them with which I am familiar seem to exist in different states of the lungs ; and in health the respiratory murmur is not the same in every horse. In thoracic influenza, both sides of the chest never give the same sound : one side, or one portion of a side, will be dumb, another loud, and another perhaps roaring, growling, or grumbling ; often there is a gurgling sort of sound. The alteration is always most distinct at the lower part of the chest. By the extent more than by the kind of alteration, I am often guided as to the propriety of applying blisters to the sides.

Before concluding, I would suggest the propriety of discussin

the origin of influenza. I do not mean its external cause, for that will not be discovered for many years. I mean the beginning of the disease. Does inflammation exist during the pre-febrile stage? or does it exist before the fever is developed?

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## THE EPIDEMICS OF 1836.

*By Mr. W. PERCIVALL, M.R.C.S., & V.S. 1st Life Guards.*

DISEASE has prevailed to an extraordinary extent among horses during the summer and autumn of the present year. Two distinct epidemics have come under my notice at different times, nowise alike, and seemingly in nowise connected.

The first made its appearance in the month of May, and declined and ceased in June. It was characterized by dulness and dejection; by complete and often long-continued aversion to food of all kinds; by sore throat, and in some instances by catarrhal symptoms; by celerity of pulse; by the speedy accession of debility; and by an insidious proneness to run into chronic pneumonia. In fine, altogether, it did not materially differ from many former epidemics.

But the second, which commenced in July, and still in the metropolis (October), and probably in many country situations, continues to prevail, though its prevalence appears much abated, has assumed altogether a different aspect from the ordinary epidemic. It has manifested this one, among other peculiarities,—that in no instance has it presented the appearance of catarrh.

*Symptoms.*—Dulness, and indications of pain in the head; disinclination to take food; partial closure, with slight puffy tumour of one or both eyelids; intolerance of light; a trifling issue of tears from the inner canthus; mouth hot, but moist; fulness of the skin under the jaw; legs, most commonly all four, swollen and tender to pressure; sheath infiltrated; gait stiff, straddling, and, in some instances, so difficult in the hind quarters, as to excite suspicion that the loins were affected; pulse about 60; alvine and urinary excretions, if sensibly altered, diminished, there being a disposition to constipation.

*The Peculiarities* of the present prevailing epidemic consist, first, in its singular uniformity of character: in upwards of one hundred and thirty cases that have occurred immediately under my own observation, it has preserved, with slight variations, identical distinctive signs: the eyes, the legs, the gait, the sheath, the submaxillary interspace, have, one or other, or all of

them, in conjunction with febrile symptoms, too plainly demonstrated the identity of the disorder to admit of a moment's doubt. And these characteristics, I have since learned, have been as promptly recognizable upon the Surrey hills, farthest from London, as in the very heart of the metropolis itself.

The second peculiarity observable has been the absence of catarrhal symptoms : most influenzæ have been noted for affecting severely the mucous membrane of the air-passages ; in the present instance nothing has occurred of the kind that has attracted notice. Thirdly, the present epidemic has been of a remarkably curable nature—it has, with very few exceptions, speedily yielded to mild and simple treatment ; and although its tendency, after the primary attack, to run into debility has been strong and rapid, still that debility has not of itself proved ultimately hurtful further than the ill-conditioned state to which the animal has been reduced by it.

*Its Tendency or Termination* has been, with a little assistance from art, sooner or later, into the return of health and strength. To this, however, there have been some—in comparison to the numbers attacked, very few—fatal exceptions. Out of the 130 cases that have occurred in the regiment to which I belong, two have terminated in pneumonia, two in hydrothorax, and one in farcy and glanders : the farcy originated in and spread from the hind extremities ; glanders ensued. In some rare instances the attack has been so slight and evanescent as to pass off after simply a change of diet, without medicine. In the generality of cases, from a week to a fortnight has sufficed to restore the animals to health. In some instances, a lingering low fever, characterized by languor and debility, with or without swollen legs and sheath, and weak eyes, has supervened, which has called for the administration of tonics and diuretics and stimulants, and required from one week to a month to overcome. In one case, after the expiration of a month, an abscess formed in the throat, which proved critical, as from that period the animal went on well.

*Causes.*—My regiment did not move from the Regent's Park barracks until the first week in July, up to which period not a single case had occurred of this latter description of epidemic. The first and second weeks in July were marked by oppressively sultry weather, and in the third the influenza made its appearance, of which I have been attempting a description. Soon after its onset it rapidly spread, not from one horse to another standing by his side, or even always in the same stable or part of the barracks ; but it selected as its subjects the young, the three and four-year old horses, leaving hardly one of them

unaffected, and scarcely ever fastening upon an aged horse. I have kept several old horses in situations where they have been surrounded by others affected with influenza, and they have not caught the disorder: for these reasons I have pronounced the disease *not* contagious. Had I once entertained a different notion, I should have considered it my imperative duty to have used every precaution to prevent its spreading: I took none, and I have not had the slightest reason to repent of it.

*My treatment* has been of but a simple kind. In all cases where the pulse, and mouth, and eyes, and speedy accession of tumid tender legs, have indicated a good deal of febrile action in the system, I have not hesitated to abstract blood: I have not in general found it necessary or expedient, however, to take away more than six pounds, and scarcely in one genuine case to recur to bloodletting a second time. Immediately after abstracting blood, I have given small doses of aloes in conjunction with tartar emetic and nitre. As I have in no case commenced medical treatment before the disorder has fully developed itself, I have found several that have not required loss of blood; and some few that have restored themselves after being kept for a day or two on a cooling laxative diet. To remove the tumefaction of the legs, which sometimes has enormously augmented their volume, and proved very troublesome to subdue, I have kept my patients slowly walking about for three hours a day—an hour in the morning, a second at noon, and a third in the evening, in shady places in the open air; and when practicable, grazing them and turning them loose. And nothing, I feel persuaded, has contributed more than this to their recovery. Should the laxative medicine given in the first instance fail to render the dung a soft mass, I have, after an interval of twenty-four hours, followed it up by the exhibition of half a drachm of aloes in combination with one drachm of tartarized antimony and two of nitre, conjoined with common turpentine. The subsidence of the operation of the laxative has in a majority of cases been succeeded by the return of the appetite and spirits; and after some few days continuance of a diet, changed from bran mash entirely to three feeds of corn a-day, and a mash at night, by the restoration of health and strength. In other cases the continuance of swelling in the legs and sheath has rendered diuretic medicine highly useful, and walking exercise in the open air of paramount importance. In some few, an appearance of languor and debility has called for the administration of tonics and stimulants. Various medicines have been prescribed by different practitioners to answer these ends,—æther, ammonia, steel, bark, gentian, &c. I have given by way of a tonic-diuretic, with as much effect as

I could expect, a ball, twice a-day, composed of two drachms of steel, two drachms of gentian, and five grains of finely powdered cantharides, made up with common turpentine ; I have also exhibited carbonate of ammonia in conjunction with gentian.

*Relapse.*—Rare but marked instances have presented themselves of relapse : about half a dozen horses experienced a second attack, differing only from the first in being milder. In one or two subjects a third attack seemed demonstrable.

*Pathology.*—The parts principally affected appear to be, as far as we are enabled by the symptoms to point them out, the brain and nerves, the spinal marrow, and the serous or exhalent structures. The dispiritedness and indications of head-ach, together with the augmented sensibility of many parts, are sufficient to warrant us in inferring cerebral and nervous derangement or excitation ; while the infiltration of the legs, the sheath, the submaxillary space, and the eyelids—all parts redundant in cellular structure, and more or less dependent in their position—make it manifest that the exhalent system altogether is in an inordinate state of activity. This seems to be the result of the cerebral excitation ; or, in other words, a fever is set up in the constitution in consequence of some alarm or irritation the cerebral or nervous system has experienced from some external influence, supposed to be atmospheric, which we neither know, nor profess to know, any thing about. And indeed of the nature of the fever we understand as little as we do about the cause : we see it first in an inflammatory form ; next, in a state of decline, as though it were about to take its departure altogether, and in some cases actually doing so ; but in others, instead of leaving, changing into a low debilitative character, and in that form hanging about the animal for quite an indefinite length of time, giving rise, on occasions, to fresh grievances, such as local inflammations or swellings, abscesses, diseased lungs, &c.

That the fever is specific or uncommon is shewn by various peculiar local disorders attending it, by its course and tendency, and by the little power we have over it by medicine. That it is not either infectious or contagious is made evident from the manner in which it affects horses standing congregated together in large bodies. That it is neither destructive nor malignant in its influence is proved by its evanescent character, and by the speedy return of health. That its production is connected with atmospheric causes seems most probable from the circumstance of its being found to prevail so extensively and generally at the same season, and, in all localities, in the centre of London and upon the Surrey hills—to present one uniform aspect. That we are without any specific remedy for it, may be safely argued

from the fact of its having been known to disappear or end its course in the return of health, under a great variety of not only different remedies, but even under different modes of treatment. In truth, those practitioners appear to have succeeded best who have done little more than look on, only keeping out of the way all such influences as were or might be productive of harm, and watching that no organ—the lungs especially—became seized with inflammation during its course. Of all the steps taken towards effecting recovery, the removal of the patient from his domicile or place where he experienced the attack into the open air, or a change of air, seems to be that which has been attended with most benefit; and numerous have been the cases in which that change alone has, unaided, worked a cure.

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### ON THE EPIDEMIC OF 1836.

*By Mr. W. F. KARKEEK, of Truro.*

“ Pardon this digression ;  
 But whatsoe’er may be a man’s profession,  
 Whether the trade be noble or ignoble,  
 Whether he steers a frigate or a coble,  
 He finds some vast importance in the calling,  
 And deems the universe is kept from falling,  
 And all the interests of man affected  
 By that to which his talents are directed.”

*Anon.*

IT may appear superfluous, Mr. Editor, in troubling your readers with any thing more respecting “ The prevailing Epidemic,” after so much has been written and said on the subject; but as it appears, from your brief report of the proceedings of the Veterinary Medical Association, that its members differ exceedingly in their opinions on this disease, I have ventured to offer mine, and more particularly so, as they are different from most others; for

“ Who shall decide when doctors disagree ?”

The diseased changes observed in the different parts of the body were certainly considered and discussed with an extreme degree of minuteness by the professional gentlemen present at the meeting of the Association; but, in my humble opinion, the original and real cause of these changes was entirely overlooked, viz.—the morbid state of the fluids—being of opinion that the epidemic bane vitiates the blood and deranges its vital principle:

and I am convinced that, if they had considered this disease as one produced by a morbid state of the circulating current, they would have found a ready explanation of the different phenomena observed in its progress, and have discovered no mystery whatever to unravel, and the "*mysterious energy and extreme sensibility*" would have been easily explained.

In the years 1832 and 1833, I was particularly struck with the appearance of the blood drawn from some horses labouring under influenza. I found it black in colour, thin in consistence, and it flowed in wiry streams from large orifices. Since that period I have been very particular in my observations, and the result has led me to believe that the blood is actually diseased previous to the commencement of the attack. I briefly alluded to this subject at the time in the pages of *THE VETERINARIAN* on the "External Causes of Disease\*." I then stated it as my opinion, that, in all diseases arising from aerial poison, the blood is injured in its vital properties: that the circulating current, to be preserved in a healthy state, requires a portion of *pure atmospheric air*, which it receives in the lungs, and this is diffused in the other material ingredients which enter the circulation through the medium of the thoracic duct; that it was by these grosser ingredients, air and vitality, that the blood is formed; and that the vital principle which exists in the blood is as easily affected by noxious agents as the stomach is affected by improper food. Acting, then, on the supposition that the vital current was diseased in influenza, I soon became convinced that it was my duty not to lessen the *quantity*, but to endeavour to improve the *quality* of that fluid, the healthy condition of which is so essential to life; and to accomplish this I determined to try the effect of some of the neutral salts, as recommended by Dr. Stevens in his "Observations on healthy and diseased Properties of the Blood." But previous to this, I made some experiments on different kinds of blood, and the result confirmed the opinions of Dr. Stevens, to whom much merit is due for his discoveries. I submitted some black blood that I took from the heart of a horse that died of influenza to the action of oxygen gas, and I found that it did not produce any change in its colour. I then added a small quantity of the solution of muriate of soda, and instantly the red colour was restored; thus proving, in the first instance, that the blood which I submitted to the test of experiment was diseased, and, in the second place, the accuracy of the discoveries of Dr. Stevens, that the blood owes its red colour entirely to the presence of the saline matter which is invariably found to exist in

\* Vol. vii, page 214.

it while in a healthy state ; for the removal of the carbonic acid by means of the oxygen did not produce any change in its colour, until a portion of neutral salt was mixed with it.

I then commenced the practice of administering some of these salts, the carbonate of soda and nitrate of potash, combined with digitalis, and sometimes minute doses of aloes at the commencement of the attack, and continued to do so as long as the pulse indicated febrile excitement. When the fever was reduced, I gave the carbonate of soda in combination with some vegetable bitters, such as gentian and calumba. In some instances I have been under the necessity of abstracting blood ; but this practice I have always avoided if possible.

A very common symptom that made its appearance in most cases that came under my notice was, a difficulty of deglutition. My practice has always been to apply a strong blister to the throat. I found, likewise, great benefit from causing my patients to inhale the vapour of boiling water oftentimes during the day.

The reader will perceive that I have not recommended the neutral salts as a specific, inasmuch as I do not neglect to employ other methods of cure at the same time. Of this we are certain, that the remedy I recommend is a very simple one, and cannot possibly do any harm ; and of its efficacy as a means in restoring the healthy stimuli to the heart, when the blood is much vitiated, I am certain : and I have proved it in a great many instances, that the blood loses its saline properties in influenza, by the test of experiment.

Now, when we look to influenza as a disease of the solids, we are constantly at a loss to understand the symptoms ; but when we consider it as a disease of the blood, almost all the phenomena explain themselves.

I was particularly struck with a question put by Mr. E. Braby at the meeting of the Association to the President, Mr. Sewell : " What was the disease at the first stage ? " " It was a constitutional disturbance that increased the action of the heart, but produced more general irritability than inflammation." I perfectly agree in this answer—that it was not an inflammation, for common inflammation was chiefly confined to the vessels themselves, whilst in this malady there is not only a morbid action of the bloodvessels, but the blood itself was diseased. It is now no longer a healthy stimulus—hence the constitutional disturbance and the general irritability observed in the first stage of the complaint, so commonly followed by extreme weakness ; and hence the irregularity in the action of the heart, and the great variation from the healthy temperature.

In simple inflammatory diseases, when we reduce the increased

action at an early period, by bleeding, &c. the inflammation commonly subsides; but in this disease, if we attempt such practice, the greatest danger is left behind: our patients require the use of active stimuli to keep up the action of the vascular organs.

I have witnessed two cases where there was a diminution, rather than an increased action at the commencement of the disease; a kind of torpor seemed to pervade the whole system; and from first to last there was no re-action. In these cases, I believe the blood to be considerably vitiated previous to the attack. I tried every possible means to rouse the vital powers: for the pulse sunk as low as 26 beats in the minute. On dissection, I found in both instances the heart and its parietes softer than usual, and completely gorged with black saltless blood. It was a portion of this blood that I first submitted to the test of chemical experiment.

There appeared some little difference of opinion at the meeting of the Association respecting the different membranes that were affected. Without doubt, all of them are diseased: the blood is the pabulum of the solids; and when the whole of their nutritive fluid is deranged, there must be functional disease in every part of the system. Having written thus much respecting the nature and treatment of this disease, I will offer a few remarks respecting the origin of the epidemy—the *το θειον* of antiquity. Mr. Sewell attributed it to some subtle effluvia from the bowels of the earth, produced by volcanic eruptions, &c. Whether Mr. S. is right in his opinions or not, none of us can determine; but thus much we know, that it is in vain we search for its origin amidst those elements which pathologists have made subservient to the generation of disease, such as ill-ventilated stables, changes of weather, excess of moisture, and so on; for I have witnessed its attacks under almost every variety of weather, and in every variety of situation and manner of living. I think that a great deal might be said in favour of a volcanic origin. There may be conditions in which it is necessary for the volcanic agency to be developed in an unusual degree in order to serve the general purposes of creation; and that this has been the case within the last few years, I think there cannot be a doubt; and particularly in the years 1832, 1833, and 1834, as proved by those meteors which have been such extraordinary objects of interest during these years, and which were very likely to have arisen in consequence of the increased action of the interior of the earth, as developed by earthquakes and volcanic emanations.

With respect to the matter itself that is diffused through the atmosphere, I believe it to be as various at different times as the character of the epidemic to which it gives origin. Analysis

has proved that there is no substance in meteorites not found in the earth, except in one or two particular cases. Nickel, long supposed to be a meteoric metal, is now found in mineral masses of terrestrial origin; and there are frequently traces of positive volcanic matter in stones that have fallen at a time when no volcano has been in the immediate vicinity. We know, also, that volcanic ejections have been carried even from Vesuvius and Etna as far as Constantinople; and that there must be thousands of earthquakes and volcanic eruptions of which we can know neither the character nor existence.

## ON THE INFLUENZA OF 1836.

*By Mr. S. W. JEFFERY, Blandford.*

HAVING read with considerable interest Mr. Sewell's Essay on the Influenza, and also the remarks of different veterinary surgeons, I feel it my duty to contribute my mite towards the elucidation of the treatment of the present epizootic; especially as I have had more than 100 horses under my care within the last three months labouring under this disease, and of which I have lost only three, and these between fourteen and twenty years of age.

The treatment which I have adopted has been, to abstract about three or four quarts of blood, and then to give *sp. nit. æth. ʒi*, and *liq. ammon. acet. ʒv* twice in the day, until the fever is subdued. I then have recourse to vegetable tonics, as ginger and gentian, the diet of the patient consisting of bran-mashes, gruel, &c.

I deem cathartic medicines absolutely poisonous, for many horses purge far too much in this disease, without any medicine at all, and are excessively weak. The post-mortem appearances in the two horses that died were, the mucous membrane of the trachea, bronchi, and lungs, highly inflamed; but all the other viscera healthy.

## THE PAST AND PRESENT STATE OF VETERINARY SCIENCE.

No. IV.

*By Mr. T. W. MAYER, Jun., Newcastle-under-Line.*

ALTHOUGH to look upon the past, and to trace the various steps of improvement that have taken place in our science, is

pleasing, yet much more delightful is it to survey its present state and future progress, because it is a subject more of interest to us ; for although much has been done towards raising the science to its proper level, much still remains to be done, to the performance of which it is our duty, no less than our interest, to apply ourselves.

The present state of veterinary science presents some remarkable features, which may be considered under the following heads :

First, Professional Knowledge ; secondly, Professional Education ; thirdly, Professional Respectability ; and, lastly, their Results.

I think it will be allowed, that professional knowledge ought to consist primarily in a thorough acquaintance with the anatomy, physiology, and pathology of the animals committed to our charge ; the anatomy of which should comprehend an intimate knowledge of the bones, their structure, number, form, and situation ; the ridges, eminences, depressions, foramina, pits and grooves in each of them ; their names, what muscles they give origin to, what nerves or arteries pass through them, and what ligaments play upon them, or are attached to them ; likewise the muscles and ligaments, their structure, number, form, origin, insertion, and use ; also the arteries, veins, and absorbents, their structure, course, and distribution : likewise the brain and nerves, their structure, origin, and distribution : to these may be added, an accurate knowledge of the contents of the thorax, abdomen, and pelvis. A knowledge of these different parts constitutes the anatomical attainments of a good veterinarian, but which, in the present state of our science, I am sorry to say, is neither fully taught nor described by our anatomists, and therefore not possessed by the majority of our profession. The following is assigned by an eminent writer as the reason :—"The veterinary practitioner does not require so accurate an anatomy as the surgeon : he has seldom to cut down on an artery, never to amputate a limb. There are some parts of the animal, indeed, of which a knowledge would lead to little or no practical utility whatever ; such are many muscles of the back, loins, neck, and head ; the minute structure of the brain and nervous system, the precise course of bloodvessels removed from external injury, and some others." This reason is in the mouth of nearly every student ; this is his plea for neglecting a part of his professional knowledge, which he deems unnecessary for him to know, and therefore never tries to attain. May not, I would ask, "that seldom to cut down on an artery" happen in the first case a student may have ? Yes ; and he may even have to amputate a

limb ; and will a knowledge of those muscles, amongst whom poll-evil, fistulous withers, lumbar abscess, &c. are found to lead to no practical utility ? If a veterinary surgeon knows not the minute structure of the brain and nervous system, he will be unable to form any correct notions of their influence in many of our diseases ; and if, in addition, he knows not the course of the blood-vessels removed from external injury, he will be quite at a loss in those internal injuries that sometimes occur from stakes and other accidents, and which often call for the utmost anatomical knowledge and skill. This reason ought not to be any plea, therefore, for neglecting any part of the anatomy of the horse ; but if we wish to make ourselves masters of our science, we ought not to stop till every part of it is learned and fixed upon our memory.

In consequence of this lamentable deficiency in our anatomical knowledge, it is impossible that we can be eminent as physiologists. Hence we have no distinct work on the physiology of the domestic animals : true, indeed, it is, that we have their physiology described in our anatomical works, but it is nearly all borrowed from the human physiology, and adapted to them : with truth, therefore, we may say, we have a borrowed physiology, which, although it may generally be correct, yet I conceive it would tend much to the advancement of this part of our professional knowledge if we had a distinct work on the subject, based upon original experiments. If such was carried into effect, I have no doubt that many things which are now obscure would be brought to light.

With regard to the pathology of these animals, we stand on higher ground ; for the present state of this department of our science exhibits considerable progress, though it has not yet attained that perfection which is desirable. The disorders to which the animals are liable are at present much simplified ; the causes and symptoms belonging to them are much better understood ; some diversity of opinion however exists as to the remedies, each practitioner mostly preferring his own particular recipes. We do not, however, see so much of that adherence to the old authors—the stimulating plan of treatment—the hot oils : the caustic system is giving way to milder and more scientific remedies, which produce more beneficial effects, and tend to alleviate the sufferings of the animal. Need I refer your readers to proofs for the foregoing statements ? I will refer to only one, which furnishes, in my idea, the best view of the present state of our science,—I mean the foot of the horse. Whether we consider its present anatomy, its physiology, its pathology, compared with former notions on the subject ; whether we consider our operative surgery with regard to it ; or whether we call to mind

the inventions that have been had recourse to in order to alleviate lameness and protect the foot; each and all furnish abundant evidence of the improved state of veterinary knowledge.

In proportion as anatomy, physiology, and pathology, are still more perfectly understood and described, we shall be able yet more to simplify diseases; we shall be able more judiciously to apply our remedies, and we shall attain more just principles upon which to base our operative surgery. We may then look forward with more confidence towards obtaining a substitute for that dernier resort, the actual cautery.

There is something more besides this acquaintance with the anatomical structure, &c. of the animals committed to our charge that comes under the denomination of professional knowledge, and which knowledge is essentially necessary to a veterinary surgeon's education,—I mean chemistry, materia medica, pharmacy, and last, though not least, veterinary jurisprudence. What place, what station shall we assign to these in the present state of veterinary science? It is evidently the darker side of the picture, for it is only of late years that the former of them have been admitted within the pale of veterinary knowledge: they must, however, be considered as essentials to every one who wishes to rise in the profession, and, through him, as accelerators to the future progress of our science. For the want of the due cultivation of these respective parts of veterinary science we are wholly indebted to others for our chemical knowledge. We shall not overstretch the mark when we say we have no materia medica or manual of pharmacy worthy of the name; and as to veterinary jurisprudence—a part of veterinary knowledge which it is of the utmost importance we should excel in—what is it? A by-word among the legal profession, a laughing-stock for the sensible portion of society, a blank in the pages of the veterinary dictionary, and a stain on the character of the profession. Let the recent account of a trial be read over, and we shall have ample evidence of the truth of the foregoing remark. I shall not stop in this part of my letter to inquire further into this matter, as I shall recur again to this portion of my subject when speaking on veterinary education. For the present, I content myself with stating, that we want a *corrected, connected standard* of veterinary jurisprudence, based upon anatomical, physiological, and pathological TRUTH and INVESTIGATION. We want our veterinary surgeons to adhere to such a fixed standard—we want them to make themselves more acquainted with this long neglected part of their knowledge—we want their honest opinions as professional individuals, as men having a character at stake, unprejudiced and unbiassed; and till we have this, we shall always be liable to such exhibitions as the recent one, which we

are obliged to ascribe either to a want of professional skill, or, at least, of the properly defined point where soundness terminates and unsoundness commences. Such is a short sketch of our professional knowledge, intended as a preface to the more important subject of professional education, the consideration of which I postpone for my next communication.

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## ON SOUNDNESS AND UNSOUNDNESS, AND THE DUTY OF THE VETERINARY SURGEON.

*By Mr. W. C. SPOONER, Southampton.*

*To the Editor.*

Dear Sir,—IN your able leading article of last month on “The Examination of Horses,” you conclude with the remark, “we will return to this subject, unless it should soon employ a better pen.” Now, disclaiming every—the slightest—idea of depriving your readers of the advantage of your additional notice, I would yet venture to offer a few general observations on the matter in question; and if in so doing I should, in some degree, differ from you, I am sure you will regard such difference with your usual fairness and candour.

The horse trial that has led to your remarks presents, certainly, a singular discrepancy in the opinions of the practitioners who were concerned thereon, and a discrepancy, in many respects, to be regretted; the more particularly as the public are altogether unacquainted with those shades and shadows which often separate health from disease; but imagine, on the contrary, that the soundness and unsoundness of a horse must be as distinctly marked as the directing notice on a sign-post. I agree with you, that there is a great deficiency in the education of the student with regard to medical jurisprudence; but if this were obviated by longer attention to the subject, both on the part of the student and the lecturer, still it would not reconcile the present differences, nor afford a sufficient remedy for the evil complained of: for if there is much difference of opinion amongst the professors on this subject, they would, of course, make use of their opportunities in promulgating their own peculiar ideas; and thus would the mind of the student be bewildered in exchange for the ignorance which now so frequently prevails. Besides, however appropriate such observations on deficiency in the education may be to the obscure or newly-fledged practitioner, I cannot think they would justly apply to those more eminent surgeons whose fate it has been to differ so much on the matter

in question ; for, supposing that they had received every instruction on medical jurisprudence that could be wished during their pupillage, yet it is not likely that, after some years' practice, they would still allow themselves to be tied to the apron-strings of their Alma Mater, but would, on the contrary, rather think and act for themselves.

With regard to the trial alluded to, let us endeavour, if we can, to account, in some degree, for the variation that appears in the certificates of the different practitioners. We will put Mr. Sewell's out of the question, as many of the defects which he points out might have got well in the course of three months ; but with regard to Messrs. Field and Turner, we find that they both agree in one particular, that the *horse was unsound*. Now this is what we all endeavour to look for in examining a horse—*some cause of unsoundness* ; and this being discovered, we may or may not mention other defects that may exist ; and it is undoubtedly the fact, that the slightest alteration in structure may strike in a moment the eye of one practitioner, and escape that of another, particularly if the latter has already found sufficient to induce him to pronounce the horse unsound.

Some time since a mare was brought to me to be professionally examined, chiefly on account of a thorough-pin on the off hock. This thorough-pin, however, did not interfere with her action, or injure her in the slightest degree, and on this account I could not pronounce her unsound ; but I could perceive some degree of enlargement on the spavin-place of both hocks, particularly on the near one, but attended with no lameness whatever. In addition to this I discovered decided contraction of the off fore foot, accompanied with *indisputable pointing*. Putting these facts together, I did not hesitate to give a certificate of unsoundness, and in consequence the seller took her back ; but I afterwards found that she had been passed by a veterinary surgeon.

“There is only one step,” remarked Buonaparte, “between the sublime and the ridiculous ;” and we may with equal truth apply the same observation to the terms soundness and unsoundness ; for although they differ as much from each other as a negative and a positive can do, yet there is but the slightest step actually existing between them. And thus I take it there ever will be, as there ever has been, a great variation in the opinions of practitioners with regard to them.

To take up a particular case, let us see how it bears on the matter in question. An exostosis on the hock, for instance. This enlargement may have come on very gradually, and if unattended with lameness it is impossible for any one to detect it at the very onset. Some time afterwards its appearance is such as to strike

the eye of the examiner, and he pronounces the horse unsound in consequence ; whilst another practitioner might fail in detecting it, or might consider it as only the natural formation of the hock : and certainly there are many hocks much larger than others at the spavin-place. If the horse is actually unsound, yet he is not more so than he has, perhaps, been for a long time previous, although it is only now just discovered.

While on this subject, I should allude to the very useful and practical communication from Nimrod, in your last number, in which he gives us an account of his experience on the subject of spavin, which he thinks ought not to be considered unsoundness, unless attended with lameness. But Nimrod should bear in mind, that, when a horse is brought to a veterinary surgeon for examination, he knows nothing of his previous history ; the animal appears, perhaps, with a spavin which does not render him at present lame. Now this enlargement might possibly have been there for years, during which time the horse might not have been lame ; but, on the other hand, it is equally possible that it may be only a few months old, and it might have produced lameness at first, which, perhaps, has been removed by rest and treatment, but will return with a renewal of his former work. These being the possibilities and probabilities of the case, the veterinary surgeon must act upon the safe side, and he does so when he pronounces the horse unsound. The purchaser may (if he knows the history of the horse) still be justified in giving a good price for him ; and the opinion of the practitioner may rather dispose him to do so, although condemnatory with regard to soundness.

There are, doubtless, as Nimrod shews, many cases of spavin unattended with lameness, and many likewise that have been accompanied by lameness at first, but which has been permanently removed by rest and treatment ; but, then, there are probably a greater number still that are attended with lameness which no treatment is able to relieve. How can we account for this fact ? We see two spavins on two separate horses, each similar in size, situation, and appearance, to each other, and yet the one is attended with lameness and the other is not.

In order to explain this circumstance, I take it we must go deeper than the surfaces on which the exostosis appears ; and we shall find, I would venture to assert, in seven cases out of ten, both inflammation and ulceration on the articular surfaces of the *tibia* and the *astragalus* (where the prominence of the former fits into the depression in the latter). I should also observe, there are as many, or nearly as many, cases of hock lameness unattended with spavin, as with it ; and I am not too bold when

I state, that of these, nineteen cases out of twenty are owing to this disease in the upper articulation of the hock just spoken of, and which may, therefore, be accompanied with enlargement or not.

I had a horse, about twelve months since, brought to me for examination, he having been warranted sound; and the seller had assured the purchaser that the horse was only six years old, fresh on his legs, and quiet in harness. On looking him over, I instantly detected a spavin circumscribed and distinctly visible on the off hock—his fore legs too were extremely *shaky* and *knuckling*, rendering him very unsafe—he would not go in harness; and, to complete the catalogue of deceptions, on looking into his mouth I found he had been bishoped. The two *front* lower incisors were smooth, but marks were in the other four, thus presenting the appearance of a six-year old.

I immediately (to shew the nature of the deception) erased with a small file the marks from the *corner tooth* on one side, and the *middle tooth* on the other; and desired the owner, when he presented the certificate of unsoundness (which I gave him on account of the spavin), to ask the horsedealer to account, if he could, for the very singular appearance of the teeth. The gentleman was fortunate enough to recover his money, with but little expense. Now here was a case, in which out of four serious faults the spavin was the least, for it was not likely to occasion lameness; yet it was this least of faults that alone enabled me to certify unsoundness, and the purchaser to return the horse.

On the subject of splents there are but shades of difference between soundness and unsoundness, and no one, I think, can venture to draw the line of demarcation with his pen. A moiety of our horses, perhaps, possess splents in some degree, and it is only from our judgment and experience that we are able to tell whether they are likely to occasion lameness. I should say that, if they are large or near the knee, they ought to be considered as constituting unsoundness.

Then, with regard to corns, one practitioner may not discover any, but another, having the shoes removed, spies them out. But do they necessarily constitute unsoundness? They may be so slight and insignificant that we may at once decide that they are not likely to affect the horse, or injure him in any degree; and therefore we may consider him as sound. But, then, there are corns of every shade and degree, from the slightest speck of ecchymosis to the most serious evil; and difficult indeed is it to decide the exact line which forms the barrier between soundness and unsoundness in many of these cases. I mention these

illustrations, in order to shew that there are many cases in which the distinction between health and disease is so slight, that difference of opinion must almost necessarily occur; and it unfortunately happens that these are the species of cases that are most likely to come before a court of justice, while numbers of others, in which several veterinary surgeons entirely agree, occasions no notoriety whatever. But is our profession singular in this respect? are there not numerous instances of the most remarkable discrepancies in the opinions of learned judges in their explication of the laws of warranty? After all, my dear Sir, I agree with you, that there is far too much difference in the opinions and statements of practitioners with regard to soundness; and those professional (q<sup>v</sup>. unprofessional) encounters should, as much as possible, be avoided. The only plan that I can think of, as likely to conduce towards this purpose, would be for some veterinary surgeon to bring the subject fairly before the Medical Association, and for its members to meet together with the wish and desire to *agree as much as possible*; they should then draw up the general principles on which all or the great majority might coincide; and should endeavour to bring under the same head as many points of detail as possible, but mentioning those points and details on which a difference might be unavoidable. If this were done, and parties would, in some degree, *merge a few differences on minor points, and try to agree as much as possible*, then certain data might be obtained, which would be of the greatest service to practitioners in general; and those professional tournaments might be avoided, which are now so frequently witnessed in a court of justice, by which all are alike injured in the end, the victors and the vanquished, whichever for the time may prove triumphant.

With regard to another branch of the subject which you have taken up, I must confess my opinion that a veterinary surgeon has nothing to do with the price of a horse, nor is he competent to judge of his merits, unless he gives him an extensive trial, of which neither his time will admit, nor the usual fee afford a sufficient remuneration. If a carriage-horse be the subject of examination, he had need to see him perform a journey before he can judge of his value; and if a hunter is the object, the practitioner must witness his performance through a good day's hunting before he is able to judge of his merits, or tell whether he is worth £50 or £200. If a veterinary surgeon decides as to soundness, discovers the faults, and points out the blemishes, he has, I think, done his duty, and fairly earned his half guinea fee. Of course, if he is employed by a friend, he will give such advice in addition as one friend may be expected to give another,

but this will be a sacrifice to friendship, and not to professional duty; and I certainly think that we ought not to run the risk of taking the bread out of the horsedealer's mouth, by advancing an opinion which we have no opportunity of deciding correctly, and which therefore may be erroneous.

My letter has swelled much beyond its intended limits, but I hope these vague and hurried observations may not be entirely useless, and that the subject may receive the benefit of other abler and more practised pens.

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## INDIA, &c.

OBSERVATIONS ON THE VETERINARY ESTABLISHMENT AT PRESENT IN INDIA, WITH A PLAN OF AMENDMENT PRESENTED TO THE HON. COURT OF EAST INDIA DIRECTORS, AND TO EDWARD COLEMAN, ESQ., PROFESSOR, IN 1824, BY MR. J. T. HODGSON.

THERE being no veterinary establishment at the Bengal Presidency, by the general orders, dated 17th March, 1821, Mr. Hodgson, the veterinary surgeon at Hissar stud, was appointed veterinary surgeon to the governor-general's body guard, and to superintend the tuition of veterinary students at Bally-Gunge, Calcutta, a measure from which the governor-general in council anticipated much future advantage to the cavalry branch of the service.

By the general orders, dated the 12th May 1821, eight assistant apothecaries on the establishment were selected and assembled at the Presidency, for the purpose of being placed under Mr. Hodgson's charge, with a view to their being prepared for employment with corps of native cavalry; and as an encouragement for these students early to acquire the requisite proficiency to enable them to discharge veterinary duties with effect, on being reported fit to join corps, they were to be promoted to sub-assistant veterinary surgeons, and placed on the same footing in regard to pay, allowances, &c. as the army apothecaries.

Mr. Hodgson, in his letters dated the 1st of April and 18th of May, 1822, stated his reasons why the proposed plan was not likely to be of advantage to the service, and forwarded a copy of a similar plan for providing His Majesty's cavalry with veterinary surgeons, which was suggested, it appears, by a board of general officers, who had been assembled to take into consideration, among other matters, the means of improving the practice of the veterinary art in those corps; and accordingly, by the regu-

lations dated the 24th of May, 1796, it was attempted to be carried into effect. But by that dated 21st of September, 1796, it was abandoned, and the army veterinary department placed on a more respectable footing; and the regulations dated the 7th of May, 1807, and 14th of April, 1815, held out greater encouragement to well-qualified persons to enter into and continue in the service as veterinary surgeons, as their appointment had been productive of great benefit.—See 8th Report of the *Commissioners of Military Enquiry*.

But from the impossibility of procuring regularly educated veterinarians in India, the government felt unwilling to abandon the experiment of giving veterinary assistants to the cavalry regiments, unless obliged to do so by insurmountable circumstances; and, having considered the practicability of attaining results satisfactory at least in a considerable degree, they expected from the superintendent a zealous co-operation with their wishes, to attain every advantage that could be procured to the service by the success of the experiment.

To secure the important objects the government had in view, Mr. Hodgson continued and extended the course of instruction; and, in his letter of the 5th of August, 1823, offered some further observations on the general duties of army veterinarians, and the manner in which their services might be most advantageously employed. The government entirely coincided in the views of the question taken by the Medical Board, that a few regularly educated veterinarians might be very usefully employed in the manner proposed by Mr. Hodgson.

But the government did not feel themselves competent to decide on the merits of the plan which accompanied Mr. Hodgson's letter, dated the 20th of November, 1823, which plan, with the projected work on the veterinary department by veterinary surgeon Percivall, of the Royal Artillery, it was stated, would more properly come under the consideration of authorities at home, to whom it was to be submitted on that gentleman's arrival in Europe.

When the number of horse artillery, cavalry, studs, and other departments of army cattle in India, are considered, it certainly appears an anomaly that an army veterinary establishment has not been organized; that to the want of it may be attributed the very heavy expenses of some of these departments, particularly the stud, which has been under the superintendence of one person (Mr. Moorcroft), a professional gentleman of acknowledged talents and abilities: but it will not be contended, that a greater body of professional information would not have been more advantageous, when it is also considered that the stud is

under the superintendence of a board unacquainted with the subject.

The plan proposed by Mr. Hodgson is, that the Hon. Company should have a veterinary professor, who should be an honorary professor at the Veterinary College, where he should deliver, at stated periods, a General Course of Lectures on Breeding, Rearing, Management, Shoeing, and Diseases of Horses, Camels, and neat Cattle in India, that the students of the College appointed to the army in India might be particularly acquainted with the duties that would be required of them. To these lectures should also be admitted, gratis, such of the Hon. Company's civil, military, and medical servants who might wish to attend, which would be preferable to delivering lectures at Hertford and Addiscombe Colleges, as is done by Mr. Coleman to the cadets at Woolwich.

The Professor should likewise be referee on these affairs, the principles and practices of which would thus be better understood, and expensive experiments prevented in India.

That veterinarians should be appointed on the general staff, and attached to the divisions of the army in India, with a staff salary in addition to the pay and allowances received by the veterinary surgeons of His Majesty's dragoons now in India, whose services might be available on this plan.

*The Plan of a proposed Veterinary Establishment for the Hon. East India Company's Home Department.*

Veterinary Professor—General Staff of the Army in India—Veterinarian to the Forces in India—Veterinarian to the Forces at the Presidencies of Bengal, Madras, and Bombay—Veterinarians attached to the divisions of the Army at each of the Presidencies—Veterinary surgeons (supernumeraries if any) posted to brigades of horse artillery, cavalry regiments, the stud, and other departments of army cattle—Pay and Allowances—Promotion—Furlough—Retirement—Pension—Veterinary Regulations—Supply of Veterinary Instruments and Medicines (Europe and country)—Portable Forge, and Horse-shoes.

## NEW VIEWS REGARDING ROARERS.

*By Mr. JAMES TURNER, V.S., Regent Street.*

MY subject is that well-known disease in horses, called "Roaring;" but I profess not to appear before you with an essay or dissertation upon the nature, origin, termination, and treatment of this malady, which, despite of the scientific advances

of our art, continues wofully to this day to deteriorate or incapacitate great numbers of our best blood-horses. For the present I aspire only to a few clinical remarks upon a most interesting case, which I flatter myself may prove pertinent, and lead to a fresh train of inquiry as to the true seat of this formidable and very frequent source of unsoundness in horses.

That the incurability of the roarer is a reproach to us, cannot, I think, be denied; but yet, in reality, it is less so than a hasty glance appears to warrant, because in nine cases out of ten the disorganization is the sequel of other diseases which, like acute inflammation of other organs or tissues, had their day, hour, or passing moment, at which they would have yielded to the hand of science, if vigorously applied; realizing the happiest term in our medical nomenclature,—cure by resolution.

Now that the active and persevering veterinarian of the present day prevents most of his inflammatory cases of the air passages from terminating in roaring, I entertain not a shadow of doubt; but that the vile practice of the old school of farriery contributed largely to all manner of terminations of inflammation except the salutary one, resolution, I am equally certain.

But notwithstanding these odious comparisons between our clever selves and great progenitors, the intruder does occasionally rise up in judgment, even now-a-days, against the best of us. This fact the public too well know, and there is no mistaking his presence or denying him in the form of roarer, whistler, wheezer, high-blower, or grunter, too frequently reducing the magnificent weight-carrying hunter of £300 sterling value down to about £20, to drag an omnibus: and, alas! a very few weeks will sometimes suffice to accomplish this work of destruction.

Now, gentlemen, it would be a piece of supererogation for me to attempt an elaborate description of this disease in all its varied forms, when such writers as Blaine, Percivall, Youatt, and others, have so ably promulgated all that is generally known upon the subject, and duly considering also the additional light which has been shed by our president, Mr. Sewell, through the illustrations of his beautiful morbid specimens. I agree with these gentlemen in all they have detailed, and the morbid specimens speak for themselves; but there is more to come out than has yet been told in books.

Being for the most part an incurable disease, we have of late years not been unmindful of presenting to our employers these convincing testimonies in the form of anatomical preparations, to account for our inability to contend with the disease. I say, we have paraded these testimonies in our defence, such as that beautiful, flexible, and highly elastic apparatus, the larynx, degene-

rated from moveable cartilages into a rigid bony box ; sometimes a portion of the long flexible tube, the trachea, is so permanently diminished in its calibre as to afford only half the natural avenue for the passage of the vital air, occasioned either by an adventitious internal ring, or a band of organized lymph thrown across some part of the passage : at other times a perfect atrophy, absorption, or palsy of all the powerful muscles on one side or other of the larynx (by the by, of itself alone a study to the inquiring pathologist as an isolated fact).

Now, in the teeth of these facts, you will be surprised at my asserting that there is much that is illusory. Not wishing, however, to be misunderstood, I readily admit, that any horse exhibiting on dissection either of those organic diseases must, of necessity, have been a confirmed roarer. But the delusion consists in this, the supposition that in the majority of roarers the mechanical obstruction resides in one or other of the respiratory passages before named. Many years rolled over my head, and I, for one, felt perfectly satisfied with the rationale, except that it had not yielded or led to a cure. At length, more especially aroused by the contemplation of that mysterious absorption of the laryngeal muscles, I took it into my head to hunt for roarers, kill and dissect them. This chase cost me a little money, but a great deal more expenditure in time : the result was very unlike the sportsman's ; for, although I invariably killed, I seldom or never found my game. I allude to the organic lesions before named in the throat, but occasionally a large chancre-like ulcer upon the epiglottis, and on one occasion several upon the arytenoid cartilages or the rima glottidis.

I was also much struck with one solitary case of a general attenuation or absorption of the muscular fibres of the diaphragm.

In several instances I quitted the post-mortem examination, blushing with shame that I could discover no morbid lesion whatever.

But chance soon granted me what the renowned locality of Smithfield denied.

One of my employers, an eminent gentleman of the law, residing in Bedford-square, requested as a favour that I would see a favourite grey horse destroyed within my infirmary. The horse I had never seen ; he said he was a roarer, and lame from a bone spavin, adding that he killed him for the lameness, but by no means for the roaring, as he had done his work in harness for years with that complaint.

Upon sight of my victim, observing his noble muscular appearance and high condition, I first resolved upon making myself

most intimately acquainted with every minute shade of his roaring complaint whilst he remained a living instance.

I commenced by testing him for roaring after the usual manner. His cough was most agreeably conclusive, viz. gross, and invariably preceded by a short groan; and upon sudden alarm, or striking his side with a stick, he responded with that characteristic grunt not to be misunderstood; his respiration while quiescent was perfectly regular.

Upon being saddled, for he was the riding size, he carried me cheerfully and admirably in his slow paces, except for the stiffness behind.

I then trotted him up to the rate of ten miles an hour, before I became confirmed in my judgment by his noisy respiration that he was really a roarer; but at this pace he possessed the power of continuance on the flat equal to a sound horse, with the exception of the noise as a nuisance. In the gallop, however, he told tales immediately, and the noise increased exactly in the ratio as the pace was accelerated; yet he could maintain the pace upon a level surface without coughing, and without giving the rider the sensation of his wanting to stop. The degree of noise in his slow gallop may be estimated by comparing it with the peculiar sound produced by a couple of sawyers at work a short field off; but upon galloping at the top of his speed, the degree of roaring and obstruction may be well conceived when I tell you, that the good people in the Regent's Park stopped short with surprise at the apparent act of cruelty committed. I then returned home, perfectly satisfied that I was about to inspect a gem in its way.

*Post-mortem examination.*—The grey gelding was pole-axed by an expert knacker. His nostrils were well formed and capacious; he was aged, but not very old; about fifteen hands and a-half high, and better than half-bred.

The hide was removed from the chin to the abdomen; his heart and lungs were perfect specimens of health; the diaphragm was sound and fleshy; the liver, and all the contents of the abdomen, were in the highest health.

Upon removing the trachea and œsophagus, with the tongue attached, all the muscular tissue around the larynx appeared beautifully developed and vigorous; the capacity of the larynx natural, and the configuration of the windpipe bold and capacious.

A longitudinal incision was now made from the larynx throughout the trachea to its first bifurcation in the lungs, without the slightest trace of any *obstructing medium*; the lining

membrane throughout the whole extent of the canal, including the bronchial tubes, presented a beautiful specimen of health, and, to all appearance, lubricated with the usual moisture both in quantity and quality. Considering that this animal possessed a noble thorax as to capacity, I should have had no hesitation in declaring publicly, that the entire respiratory apparatus, so far as I had then inspected it, was of the most perfect order as to conformation and exemption from disease.

The jugular veins were perfect, and his throat free from glandular enlargements; the channel between the jaws was capacious; and I may add, his head was set on to the neck with elegance. I should have stated, that there was not the slightest ossification of the larynx or trachea; that I most anxiously examined every ring for twists or indentations, but could not detect one displaced; till at length, chagrined with disappointment at not finding the jewel as well as the casket, I had the head severed from the neck, dismissed the carcass and attendants, and retired alone with the head in shame, being my only remaining chance and solace.

I say shame, because I began to think how humiliating for an old hand like myself to be compelled to say to the scientific owner, "Sir, I have ridden your horse, and I have dissected him from head to foot, but I am at a loss to tell you the seat of his malady, although I am bound to acknowledge its existence in a most decided form."

Now, gentlemen, you will think I have been long enough telling you what disease the poor grey had not got; but I will very soon relate what he really had, and which is the burden of my story.

I detached the lower jaw from the upper, and finding it free from any tumour, or projection, cast it aside. No part now remained to be explored except the face; but here the intruder was secreted.

Upon holding the head up to a strong light and looking through the palatine arch, I immediately detected a permanent obstruction in the right nasal fossa. The cartilaginous partition, the septum narium, was exactly in the centre, in its natural position and condition; but the obstructing body was the abnormal condition of the right anterior and posterior turbinated bones: they were enormously enlarged, but, as I shall hereafter shew, merely *dilated* but not distended by any accumulated contents.

The structure of these turbinated bones, I need not remind you, is very curious; they are thin bony lamellæ, folded in the form of a turban (and hence their name), thin as gauze, perfo-

rated, and lined at every part by the delicate pituitary membrane, forming a vast extent of surface for the distribution of the olfactory nerves constituting the organ of smell, and in the horse supplying the place of the sense of touch. Upon attempting to pass my finger down the passage through the palatine arch, as a sound or probe, it was opposed by the turbinated bones being almost in contact with the cartilaginous septum, owing to their dilatation; anteriorly and posteriorly they were enlarged in every direction. Upon examination by the nostril, this obstructing medium could not be discerned; but it could be distinctly felt by the extremity of the middle finger after removing the nostril and integuments. The nasal passage was not by any means obliterated, but merely diminished in capacity about one-half, whilst the other, the left nasal passage, in which the turbinated bones were of their natural dimensions, was perfectly sound, open, and unobstructed, presenting a very considerable space for the free transmission of atmospheric air, between these bones and the septum narium.

Although the discovery of these morbid phenomena gratified me exceedingly, in clearing up the mystery of this individual case, I certainly was not at the time duly impressed as to their importance; for hastily regarding it as a case merely of *exostosis*, I had the head immediately suspended in an airy situation to dry, valuing it only in the light of an *accidental* or *solitary* case, erroneously supposing that, when dry, it would present a solid osseous tumour, which blinded me to the fact of the specimen being applicable to roarers in general.

After a few weeks, however, I became more enlightened; for upon peeping into the dried head, instead of beholding an excrescence of bone like a spavin, the evaporation had caused the turbinated bones in question to present a perfectly sound appearance, except a preternatural size; and upon cutting into their spongy substance, the structure was sound, but their augmentation was owing simply to the *dilatation* of every cell or interstice, and they were perfectly empty.

#### REFLECTIONS.

That the grey horse in question was a *roarer*, owing to this mechanical obstruction in the air-passage of his face, I shall suppose no one will dispute.

Now, I am forcibly struck that the rationale of this horse's case may be applied to hundreds. In all probability this permanent unsoundness was the sequela either of *severe catarrh* or *strangles*.

It is fair to infer, that, when a very young horse, he laboured

under an intense inflammation of the mucous membrane lining the air-passages of the head and throat, accompanied by that inordinate flux of mucus or pus from the nostrils which we occasionally see under aggravated circumstances in catarrh or distemper; perhaps a protracted case, but yet that had run itself perfectly clean, leaving behind it only those tortuous cavities in the turbinated bones very considerably and permanently dilated, owing to the long retention of viscid mucus in prodigious quantity.

If this reasoning is sound, such cases have been a more fruitful source of roarers than the horse-world has ever dreamed of.

I do not intend to weaken my position on this subject, by allowing such a mistake to go abroad, as contending that it is the *cause*, the *sole cause*, or any such extreme. I am too well acquainted with the complicated mechanism of the larynx to be unmindful of its tendency to this disease amid the outrages of domestication. I only argue that it is *one*, and not the *least* either in importance or frequency; and I flatter myself nothing less than its leading eventually to a radical cure of many of the hitherto supposed incurable cases of roaring.

It must be remembered, that there are some cases which will for ever baffle us in treatment. I have occasionally ridden some roarers, where my ears have proved as good stethoscopes as were ever made by man, in which I have been perfectly convinced that the noise issued from obstructed bronchi within the *lungs* themselves.

With reference to general causes, great stress has been laid by Mr. Sewell and others upon the mechanical injury inflicted upon the passages of the throat by tight reining. I have not the hardihood to deny its bad tendency; but my impression is, that it does not contribute a tithe-part in comparison to *colds* and *sore throats*. This opinion is founded on the facts of the many colts I have known to have become roarers before they have been surrendered up to the colt-breaker; and more especially young *racing-horses*, particularly after the *distemper*, as these turf-men term it, has been rife in their stables. Now these animals had never been outraged by the harness-collar; and I have not yet heard that the training people are guilty of tight reining, as happens to common horses.

I have already hinted, in the early part of this paper, that modern veterinarians, for a series of years, have been too much accustomed to be absorbed by the forcible impressions made upon them by those awful morbid specimens occasionally met with at the slaughter-houses, of *strictures* in and about the *throat*. Now, in my humble opinion, the mistake consists in regarding these

specimens as the *general* cause of roaring, when, in truth, such are only the *occasional* cause.

Gentlemen, I shall take leave to put my meaning in this way : suppose a Paul Pry student, one who wisely disdains to take any doctrine as granted, although scholastic, to select a roarer at Smithfield or elsewhere, so bad that he might hear him only in the exertion of a very slow pace, he would find on dissection these morbid appearances in the throat or windpipe, correspondent with suffocation. Now these are comparatively *solitary* cases in veterinary practice; but the class of roarers with which the practising veterinary surgeon comes in contact perpetually, as touching his soundness, is the gay, showy, specious-looking animal, generally in top condition, that demands the exercise of all the veterinarian's skill and energies to enable him boldly to declare between the buyer and seller; that the said fine horse, valued at 120 guineas is a *roarer*, and, therefore, it is questionable if he be worth the odd twenty pounds. Now, gentlemen, these slight cases of the disease abound; and I think I have shewn enough to prove, that their seat is principally in the head—in fact, merely in the face.

It will therefore be incumbent upon us in future, instead of indiscriminately condemning *all* confirmed roarers as incurable, as they have done at this College and every other college for the last forty years, to first institute an inquiry, that is, a most scrutinizing examination, with the *hope* of finding one or both of the nasal fossæ obstructed. These passages should be *sounded* by probes, bougies, &c.

Gentlemen, the remainder of my observations you must please to regard as merely speculative. Had we the grey horse here now alive, the first indication of cure would be the attempt of gradual dilatation of the passage, *periodically*, by the introduction of the best contrived elastic bougies. Secondly, their retention, secured in the passage, if possible, and of course by the most coaxing and gentle method. Thirdly, It appears an inviting case for trepanning, and, perhaps, a partial excision of the obstructing bone.

My brother, Mr. Thomas Turner, of Croydon, has been in the habit for years of *blistering* the nose and face of all his cases of obstinate or protracted catarrh; but he will not assert that he was aware the air-passage of the face was the seat of *roaring*.

Now, gentlemen, this is open to you all; and I shrewdly suspect, that there is a Paul Pry or two among you, who will run away with the *cure*; and I pledge my word not to grudge that success, if you will only kindly remember and acknowledge, that I first ran away with the *scent*, and thereby led you on to the happy consummation of vanquishing the enemy.

*THE VETERINARIAN, MARCH 1, 1837.*


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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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EXTRACT FROM THE REPORT OF THE VETERINARY SCHOOL  
AT ALFORT, DURING THE SCHOLASTIC YEAR 1835-36.

[Concluded from vol. ix, page 677.]

[WE again yield the place of honour to a record of the proceedings of one of the foreign veterinary schools; and happy should we be if we were enabled to do the same with regard to the British schools, both north and south of the Tweed. The universal wish of the profession, and the improvement and onward progress of veterinary science, imperiously demand some periodical report from our recognized seminaries of veterinary instruction.]

M. Maillet, attached to the hospital, has undertaken a series of experiments on the physiological and toxicological effects of the iodurets of potassium and mercury, administered internally. He remarked that ioduret of potassium, given in solution, was an exceedingly violent acrid poison. In a dose of half a drachm for a dog, and from two to three drachms for a horse, it produced, in the course of a quarter of an hour, all the symptoms of the caustic minerals; and beside these peculiar symptoms, there were in the horse violent abdominal contractions, but which were not followed by the ejection of any of the contents of the bowels. He observed, that when he gave half an ounce, the horse died of gastric or intestinal hemorrhage. A chemical analysis of the urine evacuated during the life of the animal, or afterwards taken from the bladder, discovered the presence of the ioduret; but it could not be found in the blood; not even in that of the renal arteries, opened during the life of the animal.

The deuto-ioduret of mercury, administered in the same dose, did not appear to have the slightest effect, except united to or dissolved in a solution of the ioduret of potassium. When these two substances are combined, the effect is more decisive than from the ioduret of potassium alone, thus demonstrating evi-

dently the share which the deuto-ioduret of mercury has in the affair. When the mixture is given, the potassium, but not the mercury, can be recognized in the urine.

#### CHAIR OF ANATOMY.

M. Rigot, who during the last year announced the existence of a muscular membrane or coat beneath the mucous membrane of the bronchi, and the immediate effect of which ought to be the subsidence or contraction of the lungs, is now enabled to announce, that the greater part of the nervous branches emanating from the bronchial plexus supply these muscles. A similar distribution of the pulmonary nerves well explains, according to M. Rigot, the phenomena of suffocation, which are observed after the division of the pneumo-gastric nerves, and which are evidently nothing more than paralysis of the motor portion of the lung.

In pursuing these researches, the Professor has often observed an obliteration of many of the divisions of the pulmonary artery, caused by grey fibrinous concretions, similar to those which are found in old aneurisms. The existence of these fibrinous depôts always coincides with certain organic changes in the lungs, as induration, tubercles, grey hepatization, or simply with an emphysematous state of the lungs.

M. Rigot has also discovered some small ganglions, variable in their number and position, in the substance of the sciatic nerves. These bodies, which are placed at the point of junction and departure of a multitude of minute filaments, do they belong to the cerebro-spinal, or rather to the ganglionic system?

#### CHAIR OF CHEMISTRY, PHYSICS, AND PHARMACY.

Of all the mercurial compounds, medicinal and venemous, corrosive sublimate is, without contradiction, the most active. Chemists, by discovering that it produces with albumen an insoluble compound, have presented a means of precipitating and rendering it harmless; and, thanks to M. Orfila, who was the first to discover this, we possess a certain antidote against this mineral poison. If some assured facts have made chemists and medical men recognize in albumen and in the substances which

contain it, this neutralizing property, they have been ignorant of the manner in which it acts on the corrosive sublimate, and the nature of the compound which results. In order to fill up this chasm, M. Lassaigne has, during this year, instituted a course of new experiments on the compound, from which he draws the following conclusions: 1st, That the albumen, contrary to what some authors have advanced, combines instantly with the corrosive sublimate without decomposing it; 2d, That there results from this combination a definite compound, containing ten atoms of albumen and one of corrosive sublimate (deuto-chloride of mercury); 3d, That this substance, among other things, has the property of being soluble in cold watery mixtures of alkaline compounds of *chlorine*, bromine, and iodine; 4th, That this solubility, hitherto unknown in salt water—a solution of the chloride of sodium—should awaken the attention of medical men and veterinary surgeons, and tends to explain how, under certain circumstances, the sublimate, in combination with both albumen and salt, may retain a portion of its active properties.

The Professor has made the same observation with regard to the fibrine of muscles, which combines with the sublimate without decomposing it, and is thus preserved from decomposition at the ordinary temperature for a considerable length of time.

A concretion, found by Mr. Renault in the right ventricle of the brain of an old horse, was subjected to analysis. It formed a tenth part of the weight of the whole brain. It consisted of 58.076 parts of cerebral cholesterine, 39.5070 of membranous albuminous matter, and 2.5070 parts of phosphate of lime.

M. Lassaigne is also occupied with M. Delafond in a chemical analysis of the different concrete substances produced in farcy and glanders. These experiments are made with a view of putting to the test the new theories with regard to the cause and products of these maladies.

Two young veterinarians, who were educated at this school, having witnessed the good effects of certain remedies employed by some empirics in that country in the cure of sand-crack in the horse and foot-rot in the sheep, have sent us a portion of the medicaments. There are two preparations; the one is an ointment

composed of corrosive sublimate and lard, and the other of a solution of sulphate of copper in vinegar, sulphuric acid being added to the compounds. The proportions of the latter are 78 parts of vinegar, 10 of sulphate of copper, and 12 of sulphuric acid.

*Réc. de Méd. Vét. Oct. 1836.*

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The present number contains another instance of the "far too much difference in the opinions and statements of practitioners with regard to soundness." The horse in question had been undoubtedly lame in the fore feet. Whether in consequence of an accident that occurred a few miles before he reached Baldock, or from inflammation of the feet arising from too long continued and rapid travelling considering his naturally small feet, or probably the total want of preparation for his journey—from one or all of these causes he became so lame, that it was necessary to leave him at Baldock for many a week. In process of time, however, whether from metastasis of inflammation or arising from the injury already alluded to, he became lame behind as well as before; and the veterinary surgeons that were examined on either side, had to speak of that lameness as well as the primary one. It was evidently a lameness of considerable standing, because the muscles of the thigh were wasted from want of use.

"The horse was lame in the stifle," said Mr. Field, and he grounded his opinion on the evident heat and swelling of the part. "In my opinion," says Mr. Spooner, "the lameness was seated at the junction of the hip with the spine." "He was lame in the near hind leg," says Mr. Turner: "I did not see any indication of disease about the hip joint, but there was decided enlargement of the hock."

Every veterinary surgeon and every horseman will acknowledge that, there being no visible alteration of structure in any part of the limb, it is occasionally a very difficult matter to determine the precise seat of lameness behind; and the best judges may differ without any impeachment of skill. A valued friend was telling us a case of this an evening or two ago. A mare, a thoroughly good one on the road and in the field, became lame behind. A veterinary surgeon pronounced it to be in the stifle,

and she was blistered on the stifle, but the lameness continued undiminished. "It is in the hip joint," said a second; and the proper means for this lameness there were adopted, but she was no better. "Nine out of ten of these obscure lamenesses behind," said a third, "are in the hock: and, look at her action; it is in the hock plainly enough here;" and the poor creature was punished in the hock, but without the slightest benefit. Mr. John Percivall, than whom a better man and a better judge of the horse never existed, afterwards saw her. "Why, can't you see?" said he; "it has been in the fetlock all this while:" and she was once more blistered and turned out; and she came up perfectly sound. The last examiner always said, and naturally enough thought, that he had hit upon the true seat of lameness. That, however, did not necessarily follow, although it was very probable: but the case is a striking illustration of the occasional difficulty of explaining the cause or the locality of lameness behind, *when there is no external alteration of structure.*

Here, however, was alleged alteration of structure. Mr. Field was guided by "the heat and swelling" of the stifle; Mr. Turner by "the decided enlargement" of the hock; Mr. Spooner more regarded the peculiar manner in which the joint was flexed. Now, it is not at all improbable that every one might be right at the time of examination. A horse shaken to pieces as this poor fellow, was, and lame both before and behind—the very muscles of the near leg behind wasted for want of use—might have a considerable inflammatory affection of the synovial membranes or ligamentous attachments of every joint—and the pain, and the heat, and the engorgement, and the difficult flexion of the limb, might shift from part to part many a time in the course of his long illness. This is the favourable and the probable explanation of the matter; and no error of judgment is necessarily attributable to either of these gentlemen.

But, on the other hand, we have too many instances of the extent to which the habit of directing the attention to one point more than to any other, or almost to the exclusion of every other, will mislead the judgment. "The early habit of theorizing," says Dr. Latham, "may so pervert the mind of the student, that, whatever may be his wish, *he cannot observe honestly.* He gives an undue weight to the facts which accord

with his theories, and no weight at all to those that conflict with them: habit forces him to do so, and he cannot help it." It is this want of systematic instruction—the want of a broad and firm basis on which the knowledge and the practice of the veterinary surgeon may be built—that has led to "those professional tournaments, by which all are alike injured in the end, the victors and the vanquished."

In the course of our time, we can recollect two palpable instances of this aberration of mind. A veterinary surgeon, whose duty it was to examine the horses sent to a certain depôt, believed that one of the most frequent causes of unsoundness in horses was disease of the eyes; and to such extent did he carry this (it became so decidedly a species of monomania), that he would reject as unsound, from incipient cataract, fifteen horses out of twenty, when there was not a defective eye in the whole of the lot. It became a matter of absolute necessity to remove him from that situation. Another had his imagination so full of the tricks and frauds of dealers, that the slightest malformation became, in his opinion, a cause of desperate unsoundness; and many a horse that had not a blemish about him was pronounced to be utterly unfit for service. He, too, was removed.

We are glad that one of our able correspondents has taken the field on this painful subject, and that another has promised so to do. To them, and to others who feel like them, we cheerfully confide the consideration of the matter. Those professional differences of opinion have become a crying evil, and the thing must be remedied. The discussion of the question before the Medical Association might be productive of some good; yet we confess that we do not expect so much from it as our friend Mr. Spooner seems to anticipate, and especially when we recollect the comprehensive and admirable essay on soundness presented to a former society by Mr. W. Percivall, and the full discussion of the principles which it involved. (See *VETERINARIAN* for November and December 1829.) We think, however, that we know the person, who, if he is not anticipated by other and better men—and there are many, many such in the profession, and especially with reference to this subject, and to whom he would readily, thankfully give way—ere the close of another session, will volunteer in the Association in such a cause.

Y.

## Veterinary Jurisprudence.

### LAMENESS.

#### SHEWARD v. WITHAM.

*Mr. Richard Knight.*—Knows Mr. Witham, of Toust. In April last he purchased horses for Mr. Sheward of him, particularly a dark grey, for £90. Witham gave a warranty for them all, (which was produced)—the money was paid—(cheque produced). At the time he observed that this horse's feet were small and thin, such as would become shelly, but he was not lame. That form of the feet often produces lameness. He does not examine these horses as a veterinary surgeon would, but relies on the warranty.

Question by the Judge.—Are not such feet liable to become broken on the road? No; the horse will be lame. The horse was shewn out with Mr. Witham's usual noise and bustle. He afterwards saw the horse in Mr. Archer's stables, at Baldock. He examined the horse; he was very lame—as lame as any horse well could be: he left him there.

Cross-examined.—He is conversant with horses; much employed by dealers; has £5 per horse for all that he buys; never goes into an examination as to soundness when he purchases a horse. He knows that the state of the feet is a material point. This horse at Baldock was very lame before; he did not see any lameness behind.

Re-examined.—He was dreadfully lame in his feet, and he thinks from the form of his feet, that the small feet would not sustain his weight during a long journey.

*Geo. Monday.*—Has been ostler at Baldock twenty years. Recollects the horse. It remained with them ten weeks. He observed that he was lame when he came in. He was taken away the following morning, in order to continue his journey, but was brought back. He had very narrow feet, not wide enough to sustain his weight. He is not a veterinary surgeon, and therefore cannot tell the cause of his lameness.

Cross-examined.—The horse continued lame the whole time he was at Baldock.

*Mr. John Saunders, V.S. of Stockport.*—He saw the horse in question on the 20th of April. He had diseased fore feet, a contracted foot. He attributed the lameness to that cause. The horse was certainly unsound. He cannot say how long the animal had been lame. If he had seen the horse with such feet

at Lincoln, he certainly should not have bought it. A narrow foot does not always produce lameness.

Cross-examined.—He saw the horse again about a month afterwards. He examined him more carefully the second time. He had the horse out; the lameness was as bad as ever. The legs all round were clean as when born from his mother. It was a foot case.

Re-examined.—The horse was in a nice loose box—the deformity of the foot was plain enough. Would not have bought the horse either with or without a warranty: a narrow foot is always dangerous—not necessarily unsound, but likely to produce unsoundness.

*Knight* re-called.—The distance between Lincoln and Baldock is about 95 or 96 miles. He ordered the horses to be taken about 15 or 16 miles a-day, and never more than 20. Never heard that Sheward had discharged the man who took these horses from Lincoln to London, for killing a horse of Watmore's in his travelling to London. Heard that he discharged him, but never knew on what account.

*J. Lever*.—Is a smith, at Baldock. He was called on to shoe this horse about the middle of April. He was very lame in both fore feet—he thinks from narrowness of the heels and weakness of the horn. He was evidently unsound. He moved the shoes. The horse continued lame the whole time he was at Baldock. He saw him on Tuesday last—he was lame still.

Cross-examined.—Did not see anything wrong in his hind feet—he was not lame all over—he was lame in his fore feet: he had the horse led round the yard—he could not go at all.

*Mr. Field, V.S.*—Examined this horse on June 25th, in North Row. He was lame in both fore-feet—exceedingly so. The feet were contracted, and the sole discoloured. He thought the disease was in the interior of the foot. It was the navicular disease. It arose possibly from the conformation of the feet: the basis being unequal to the superstructure, a greater degree of jar was produced in the action of the horse, and he thus became more liable to diseased feet. A horse with narrow feet might be sound or unsound, according to the effect of work on his feet. He should think that he had long been lame from the same cause; that there was a tendency to disease at the time of sale, and that consequently the horse was unsound.

Cross-examined.—It was a young horse, five years old. Horses with these feet often do their work soundly. There were no external causes for such lameness, but all the symptoms of navicular disease. Those horses are subject to navicular disease: rest sometimes takes off the excess of lameness, but the disease

still remains ; and the too great temperature of the stable might tend to keep up or aggravate the lameness.

In November attended this horse for fever.

In January saw him again : he was then lame of the near hind leg, from inflammation of the stifle: it was very much swelled, and hot and tender. Navicular disease is not necessarily connected with concave feet, but concave feet are often a cause of navicular disease. If he had seen the horse at first he should not have said that he was unsound if he was not lame.

*Mr. J. Boutal, V.S.*—Saw the horse first in the early part of July. He was lame in both fore-feet, and most so in the near foot. He examined him several times ; he was always lame. He saw him again to day. He is still lame,—the feet are particularly contracted, and this is the cause of lameness.

Cross-examined.—A foot of this form has a tendency to navicular disease, and standing in a hot stable is likely to increase the inflammation. If diseased behind, the action of the fore-feet would be increased, and they would be more likely to give way.

If he examined a horse with natural small feet and found no lameness, he should pass him as sound ; but if in addition to their smallness they were contracted, upon that account, although the horse might not be lame at the time, yet he should consider him unsound. Contraction takes place from disease—inflammation. It must have been the work of time to have produced what he saw : it probably existed before the sale.

A letter from Mr. Sheward was then read, dated August 2d, stating that the horse was lame, and had been so from a day or two after the purchase, and consequently must be returned.

A letter from Mr. Sheward's solicitor was next read, late in August, to the same effect ; and a third letter, dated on the 16th of September, again repeating that the horse continued lame, and urging Mr. Witham to make some settlement.

The counsel stated, that the purchaser of a horse, finding him unsound, was bound to give notice in reasonable time. The plaintiff had not done this ; and, although the horse was said to be unsound at Baldock on April the 13th, the first communication from Mr. Sheward is in August.

The following witnesses were then called :—

*Geo. Blanchard.*—Was servant to Mr. Witham at the time of sale. Remembers well the horse in question. It had been under his care a twelvemonth. It had been at grass—was taken up in October. The feet were a little bit smallish, but they were good strong feet—always sound—sound when he left. Mr. Knight looked over all the 25 horses. Mr. Dyson looked over the same horses. He took them to Lincoln, but he took two days to go twenty miles ; left the horse sound there.

Cross-examined.—Now lives with a gentleman. The heels were not drawn in, but high—good sound feet—very good feet—such feet are no objection to a horse. A small foot will wear better than a great large spreading foot. These are quite large enough. The horse was taken from grass in October, and sent away in April. Mr. Witham sells horses at the fairs—none in the winter, or then only to gentlemen. This horse was never ridden or worked, but was exercised an hour or two every day. He broke him in for harness.

Breaks such horses to give them a good mouth. He does not know how long the horse was at grass. Generally keeps his horses from Michaelmas to April, often as long as a twelvemonth,

*Thomas Borrell*, blacksmith, lived with Mr. Witham at this time. Remembers the horse—saw him the other day. He had the shoeing of him from the time of taking up to that of sale. There was not a bit of unsoundness in the feet—no contraction. The feet of blood horses are frequently of this description.

Cross-examined.—Never saw any contraction. He has not examined his feet since. He merely went to identify the horse the other day.

*Mr. R. Dyson*, dealer, in Park-lane.—He examined these horses amongst others: saw this horse there—saw him yesterday. He examined him all over: taking them altogether, he bid more than a hundred a-piece for them. They were all right.

Cross-examined.—He had small feet. Whether these are objectionable or not depends on the horse. He has seen hundreds of horses with small feet go well.

*Matth. Simpson*.—Was employed to bring up these horses. He had the four coach-horses, and Ben the blood-horses. Recollects this horse, he was the tail end of Ben's five. Went sound but fresh on Saturday—the horses were rather too many for them. About four miles before Bourn, the horse next to this horse kicked at him; backing to avoid the blow, the grey horse slid with his hind legs into a ditch; and the other being fresh, immediately drew him out again. He was evidently hurt, and could hardly go—he thought that his back was broken. He recommended that the horse should stop; but Ben thought that the lameness would go off. At Bourn, the horse was well fomented. They started again the next morning. The horse was lame all over, He was lame all the next day, and got worse day by day until he arrived at Baldock. There they tried to get him on: he was taken a little way, but could not go, and was left there.

Cross-examined.—Had been used to horses all his life-time.

*Mr. C. Spooner*, V.S.—In December he saw this horse at Mr. Sheward's. He found him in a stable under ground—he merely saw him out, as it was getting dark. He saw him again the next

morning. He was lame in both feet before, but mostly in the near foot: the lameness behind he thought was in the hip. He was in a most neglected state, with bad thrushes, attended by sloughing. It was a very filthy place; the litter had been long lying there: it was accumulated dung, and likely to increase the inflammation. He saw him again on January the 12th; the shoes had then been removed, the frogs pared out, and the lameness before was rather better; but it remained the same behind. The feet were contracted. Contraction does not usually come on of a sudden—it is an effect, and not a cause of inflammation.

Cross-examined.—Contraction proves that there has been previous inflammation. The lameness behind he considers to be seated at the junction of the hip with the spine. It must have existed some time, on account of the wasting of the muscles. It is impossible for him to tell the precise time—it might have existed from April. It probably had existed from the time of the journey to Baldock, although it might not then have been seen: in this case it might be difficult to perceive lameness behind. Some feet are narrower than others, and yet the horses continue sound. The probability of lameness depends on the weight of the horse, and from that or from his action the degree of jar of the foot.

*Mr. Turner, V.S.*—Examined this horse with *Mr. Spooner*. He was lame in the near hind leg. The muscles of that leg were evidently wasted. His lameness might very possibly have arisen from a sprain. This absorption of the muscles is a slow process: he should think that it had taken several months to produce this absorption; this however depends a great deal upon the pain of the part and the use of the limb. He did not see any indication of disease about the hip-joint, but there was decided enlargement of the hock. The lameness in the near fore-foot was from contraction. The injury behind, by means of general inflammation, might produce lameness before, and this might be much increased by the travelling. A horse with a naturally small foot may continue during life without becoming lame—a contracted foot is a frequent cause of lameness. Thrush is the consequence of inflammation of the foot. The stable in which he found this horse would aggravate the disease. The thrushes in the feet of this horse were evidently neglected ones.

Cross-examined.—Contraction is a work of time—the contracted state of these feet must have taken some months to produce. He cannot possibly say how long it might or might not have existed. It might have existed previous to April. It is just possible that it may have come on since April; but he

thinks it probable that there had been a great tendency to contraction at that time, the foot being naturally small. It is likely that the foot was in a contracted state in April.

If there had been much lameness behind at this time, he thinks that it would have been seen; but this depends on circumstances. He has seen many instances in which contraction like this has arisen, and been perfectly formed, in much less time than from April to August.

Verdict for the defendant.

### Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

*Lectures on subjects connected with Clinical Medicine, by P. M. LATHAM, M.D., Physician to St. Bartholomew's Hospital.*  
Longman and Co.

A FEW years only have passed since the most important branch of the education of the student was fairly recognised in the schools of human medicine—the study of disease at the bedside of the patient. It was neglected by the teacher, it was not coveted by the pupil. A certain number, and sometimes a small proportion only of the students, followed the physician or the surgeon as he paraded the wards of the hospital; they looked at the label at the head of the patient—no, they had not always that to look at; they listened to the ordinary routine of questions to the sick man, and to the half-indistinct directions to the dresser or attendant clerk. None of the lookers-on were benefitted, or fairly understood the matter, except they had paid somewhat heavily for certain privileges and the information which they received, and that, perhaps, a little dearly purchased; and so the farce ended.

When a few ardent and noble minds attempted to discard this profitless disgraceful routine, they met with the common fate of reformers; they were calumniated by those on whom they would impose some additional, but most useful labour; and they were treated with neglect and ingratitude by others whose interests they had at heart. Clinical lectures were not at first popular lectures; they have grown in deserved estimation, but they are not popular now. A small proportion of the students only are in the habit of watching disease through all its changes, through its whole course from the commencement

to the termination ; and even clinical lectures on new or interesting cases are attended on by not half of those who are found in the theatres of anatomy, surgery, and the practice of medicine. This, however, is slowly changing, and the interest and the duty of the student will, ere long, be better understood.

How stands the case in the schools of veterinary medicine ? In the College and its neighbourhood are able teachers of anatomy : the form, the situation, and the structure of the different parts of the frame are well explained ; their relations and their functions are traced, yet often too much as matters of curiosity and of general physiological science, than as applicable to the treatment of disease. A long succession of lectures are delivered, and many a beautiful, and many a fanciful theory developed, and zealously and eloquently enforced ; but the deviations from health, which it will be the duty of the student to combat and remove, are comparatively rarely heard of ; and the attendance at the stall of the patient, and the laboured and scrutinizing examination of the horses that die, are comparatively neglected. It is true, that on every morning the patients in the hospital are examined in the presence of the pupils ; but there is not the graphic delineation of the changing features and character of the disease,—there is not the succinct, but lucid and satisfactory explanation of the modification or change of treatment,—there is not the prophetic glance at what the morrow will probably produce—the plain-speaking, eloquent symptoms, whether referrible to the countenance, the membranes, the pulse, or the respiration, are not seized and descanted on. This is not spoken altogether in censure. It was long in being established in other schools—it is not established now in many—it is not established to its full extent in any of them—but it is that which must be established sooner or later in every school. Lectures are very excellent things ; they give a general view of medical science—an orderly representation of the extent and importance of the art ; but “they are introductory—and only introductory. They are introductory to knowledge that must be acquired by other means ;”—a knowledge of diseases in their actual character and in all their forms ;—“an acquaintance with remedies in all their kinds, and with all their varying application ;—a knowledge that can only be attained by intercourse, continual intercourse, with *diseased* animals—with all their modes of acting, and of moving, and of suffering, and of dying.”

It is interesting to hear a scientific lecture ; but the student would soon acquire a deeper interest in this study. There is a variety in it—a gratification of the quick, and curious, and restless spirit of science—an excitement at first, and then a pleasure, and then the deliberate choice of the mind. And the reward ?—

A ready discernment of disease—an apprehension of all its changing characters, and all its previously-unsuspected combinations; and, thence resulting, a skill in the use of remedies which no lectures, no book-learning, can supply—a skill that exalts the previous interest of the studies—and an interest that improves the skill, until, in process of time, experience ripens into scientific and successful practice: an interest that is warmed by humanity—that is exalted into a principle—that is invested with a moral motive, and that passes into the heart.

At the foundation of the old Veterinary Society, it was a rule among us, that the dresser of the week, if he was a member, should present us with a clinical report of one or more cases that occurred in his week. This did him good, and it did us all good; it made us all, to a greater or less degree, clinical students; for we were anxious to know a little beforehand of the case that was to be reported. Most of us can speak with perfect satisfaction of the additional hours, which we were thus induced to spend in the stables. We could not, however, always keep our dressers up to the mark; and the default of one led to the negligence of another, and the usage was, to our shame, discontinued.

Dr. Latham's work is a truly excellent one, connected with this subject. It is avowedly in recommendation of clinical study; it points out the imperative necessity of this branch of medical education, and in a most interesting way unfolds the manner in which it may be most profitably pursued. It is addressed immediately to the medical student; but the veterinary student may derive from it almost equal advantage. The method of taking cases—the necessary caution in the reading of books—the danger of indiscriminate medical reading—the delusions, and the irreparable mischief of theoretical writings, and theoretical lectures—the observation, and collection, and arrangement of facts—the true relation between cause and effect—the peculiar difficulties of inquiry, and the danger of hasty conclusions—the sources of disease—the observation of symptoms—the classification of them—the danger and delusion attending the inquiry—the influence of remedies—the danger and delusion here from our own credulity or that of others—the nature of general principles in medicine; all these are points of indescribable importance, and they are touched with a masterly hand.

Perhaps there is more stress laid on auscultation than is applicable to the veterinary pupil; but there can be no doubt that this method of detecting the seat and the progress of disease, in the respiratory organs at least, is much undervalued among us. We perfectly agree with Mr. Stewart, that the progress of the

self-taught man must necessarily be slow, and his conclusions often fallacious. The shades of distinction between the different low murmuring sounds are not soon recognized and classed by him; but if they were taught him by one to whom practice had made them familiar—by one of the professors of his school—the time would not be far distant when the chest of the horse would be as accurately explored as that of the human being; a circumstance of immense importance, not only with reference to the detection and treatment of disease, but the determination of the soundness and the usefulness of the horse.

The following extract, in which we have made a very few alterations, in order to adapt the advice more closely to the situation of the veterinary student, will probably induce him to become better acquainted with the work :—

“ During the first three or four months record nothing—use your observation to the utmost—be continually in the stables, looking at and examining the patients. Be listening perpetually with your bare ears at the chest, that you may become familiar with the sounds of healthy respiration, and the healthy contractions of the heart; and compare these with the sounds emitted from the chests of others labouring under certain recognized diseases. Accustom yourselves to feel the pulse. The number of its beats is easily measured; but it has qualities which are referrible only to the sensations of him who feels it, and you must educate your touch to the discrimination of them; for these qualities, much more than the mere number of pulsations, will serve to guide you in the detection of disease and the method of treating it. The membrane of the nose, too, must often be studied before you will be able to understand the various and the faithful hints which it gives. I am not now making any orderly enumeration of symptoms, but I am instancing a few cardinal points, with which practice will soon make you a little familiar, and enable you to appreciate the information they are calculated to convey.”

There is one easily besetting sin of young men, and, of veterinary pupils far more than those of the medical profession, and that for reasons which need not now to be more distinctly alluded to, on which the author's observations are singularly appropriate :—“ Time and diligence, and constant attendance on the sick, if you have but an impartial and honest mind, will enable you to lay up a large and useful store of genuine facts, and to draw from it as the treasury of your future knowledge. I say an impartial and honest mind, because it is remarkable how apt some little favourite theory is to get early possession of the student's imagination, rendering him unconsciously dishonest in the simple reception of facts. It is like some little favourite sin in our moral nature, which taints the character of the whole man.

“ A premature desire to generalize, and a disposition to rest in them, are very common infirmities, and they offer very serious hindrances to the right acquisition of facts; for if the early habit of theorizing do not altogether estrange the mind of the student

from the wish to observe, it may so pervert the faculty in its very use and exercise, that, be his wish what it may, he cannot observe honestly. He gives an undue weight to the facts which accord with his assumed principle, and no weight at all to those that conflict with it. Habit forces him to do so, and he cannot help it.

“A very good and wise man, Cecil, has explained this matter by an illustration so beautiful and so true, that I must recite it to you. “A watchmaker told me that a gentleman put an exquisite watch into his hand, that went irregularly. It was as perfect a piece of work as was ever made. He took it to pieces, and put it together again twenty times. No manner of defect was to be discovered, and yet the watch went intolerably. At last it struck him, that the balance-wheel might have been near a magnet. On applying a needle to it, he found his suspicions true—here was all the mischief. The steel work in the other parts of the watch had a perpetual influence on its motions; and the watch went as well as possible with a new wheel. If the soundest mind be magnetized by any predilection, it must act irregularly.’ ”

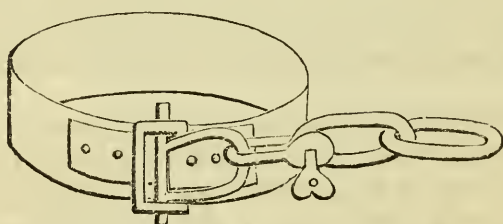
Y.

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### MR. GLOAG'S IMPROVED HOBBLES.



I AM much obliged by your insertion of my last paper respecting a new description of hobbles; but I see plainly that my imperfect drawings have not conveyed the meaning I intended. Will you be so good as to refer to the last *VETERINARIAN*, p. 88. *Fig. 6* is wrong; I do not think I gave such a figure in my drawings; and the worst of it is, that the hobbles cannot be used by that drawing. I merely stated, that one D was a little longer than the rest, to admit of the chain passing through, and to receive the cottrel. If figure 6 had been made without the projection, it would have been right; but at present it cannot be understood. The figure at the head of this letter will explain

my meaning ; and will you be good enough to correct the mistake in any manner you think proper. Had I an opportunity of sending the hobbles, I would do so. With reference to the figure, the end of the chain is seen received into the cottrel, and fastened by the screw ; and it is evident that, by the withdrawal of the screw, the legs are all loose.

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I was happy in the last *VETERINARIAN* to see the subject of examination of horses by veterinary surgeons taken up by the Editor of *THE VETERINARIAN*. A total difference of opinion on the most important points must shew the fallacy of one or the other : and as long as these things occur, so long will the opinions of veterinarians be slighted by the public. These facts are now such an every-day occurrence, and the particular points of difference of opinion between veterinarians are so great, that the best horse that ever walked may be called unsound by one or another. If alteration of structure, unaccompanied by actual disease, be unsoundness, where is the sound horse ? I hope the subject, once commenced, may be continued to be agitated until effectual *reform* is established in this branch of our profession.

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## THE LONDON VETERINARY MEDICAL SOCIETY.

A MEETING of this Society, convened by public advertisement, was held on the 24th ult., at its rooms in King-street, Camden-town, in order to take into consideration the state of its funds, and the adoption of such measures as might secure its permanence.

It appeared that, from the time of its departure from the College, at the end of May, to the present period, three new members had joined the Society, and paid their subscription—that the Society was at that period indebted about three or four pounds—that, from various causes, these debts had increased at Christmas last to more than £45, and that, if certain charges for rent, and salary of Secretary, &c. since Christmas were added, the whole debt would be nearly £51. The Secretary expressed his determination to relinquish this latter claim, and also all claim for rent, &c., for any time that might elapse until the adoption of some decisive measures : the Society, however, will scarcely be induced to accept of this liberal offer.

To meet these claims, the Society has no assets but a table, a chair, a few stools and shelves, and its library, consisting of 345 volumes, of which only about twelve volumes were missing, the greater part of which the Librarian thought might be recovered by application to certain of the members, who had too long kept them in their possession.

After considerable discussion as to the probability or possibility of the circumstances of the Society assuming a more prosperous aspect, and the ascertaining that the number of attending members was now reduced to twelve, and also, in order to afford sufficient time for its friends to look around them, it was proposed by Mr. Vines, and seconded by Mr. Braby, that "This meeting do adjourn until the 31st of March, at six o'clock precisely, then to consider of the propriety of dissolving the Society, and to come to such other resolutions as may be deemed expedient."

These "other resolutions," have reference to the payment of the debts of the Society—probably, by the sale of its library, or a part of it, and then the disposal of the remaining books or money. Every member of the Society residing in the metropolis, or within a reasonable distance of it, will see the necessity of being present at this important meeting; and we trust that many a member from the country will give this last proof of respect for an Association in which he has experienced so much pleasure, and to which he owes so much, by straining a point in order to join his brethren for the last time.

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THE first Quarterly Meeting of the Veterinary Club will be held at the King's Arms Tavern, in Bridge-street, Westminster, on Thursday the 30th of March; Messrs. Percivall and James Turner in the chairs. Dinner on table at five o'clock, precisely. Tickets 20s. This first meeting is always considered so far an open one, that the members will be happy to see their veterinary or medical friends from all parts of the country. Those gentlemen, however, who intend to honour them with their company, will please to signify their intention to the Secretary (Mr. Youatt) on or before the 27th, and from him alone can tickets be obtained.

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A press of valuable matter compels us unwillingly to postpone several communications from our friends until the next month.

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#### VETERINARY STUDENTS WHO HAVE OBTAINED THEIR DIPLOMAS.

*February 9th, 1837.*

Mr. W. P. Barrett, Bideford, Devon.  
 Mr. John Harvey, Taunton, Somerset.  
 Mr. William Smith, Yarmouth, Norfolk.  
 Mr. Richard Green, Hales Owen, Salop.

# THE VETERINARIAN.

VOL. X, No. 112.]

APRIL 1837.

[New Series, No. 52.]

## ANIMAL PATHOLOGY.

*By Mr. YOUATT.*

### LECTURE X (*concluded*).

#### *The Pulmonary Plexus.*

WE now arrive at those organs by which the most important function of life is performed, or rather where that is accomplished which is absolutely necessary to the development and to the continuance of life. It matters not that nutritive substances are received into the stomach, and separated from the ingredients which are excrementitious and useless, and carried on to one common receptacle, and the heart is ready to convey them to every part of the frame; a preliminary process must be effected ere one act of nutrition or secretion, or one manifestation of muscular power or nervous energy, can take place; and that is, the exposure of these fluids to the influence of the atmospheric air, or, in other words, the arterialization or vivification of the blood, accomplished by means of the seemingly complicated yet simple and admirable structure of the lungs. We have just considered the power exerted by the laryngeal branches of the spinal organic nerve over the dilatation and expansion of the tube by means of which the air is conveyed from the nasal passages and the posterior part of the mouth to the entrance into the lungs. The superior laryngeal nerves contract, the inferior dilate the tube, and particularly the entrance into it, and regulate the calibre of the tube and the supply of air according to the state of the constitution or the muscular exertion which at the time is required; the transversalis muscle, so evident in the horse, securing the windpipe from laceration when, in the sometimes cruel exertion of speed, the air rushes furiously along, or when violent pressure is made upon it from without. In certain states of disease of the respiratory organs, much advantage will be derived from this power of regulating the calibre of the air-

passages, and, consequently, the quantity of air which is admitted to various parts of the apparatus.

Roaring is, in the great majority of cases, a disease of the larynx; a diminution of the aperture of the larynx, from occasional spasm, or malformation, or mechanical obstruction. The horse is not distressed in his ordinary breathing; but when he is called upon for any sudden or unusual exertion of speed, and a proportionately greater quantity of air is required in order to supply the demand of arterial blood, then the difficulty which is opposed to its entrance is sufficiently evident in the rushing roaring sound which is heard, and the distress which the countenance of the animal expresses. What does the owner or the driver then do? He cannot make the horse sound again,—he cannot enable him to perform the labour of a sound horse; but he can relieve him from much annoyance, and enable him to do ordinary or somewhat more than ordinary work without great inconvenience. He ties a strap or a cloth round the nostrils of the horse; in the language of Mr. Field, “he adjusts the quantity of air received through the nostrils to the capability of the larynx to transmit it to the lungs;” and thus, by removing the irritation and the spasm which the pressure of the accumulating air on the constricted part occasioned, he enables the horse—not, I repeat it, to do the work of a sound horse, but to do a great deal more work than he otherwise could. If more blood is not arterialized, and the full muscular exertion restored, yet a source of annoyance and oppression, under which little exertion could be made, is removed, and the animal breathes with comparative freedom, and works with comparative ease. This, although applying to another division of the respiratory canal, shews the advantage or absolute necessity of sympathy and simultaneous action between every part. But we must proceed.

*The Bronchi.*—When the trachea has entered the chest, between the two first ribs, and has reached the third dorsal vertebra, it divides, and again subdivides, perforating every part of the lungs, until each ramification has become a perfect capillary tube, terminating in a minute sac or vesicle. It is of these tubes, and their vesicular terminations, that the cellular tissue of the lungs consists. At first the bronchi appear to be constructed like the trachea; they have the same cartilaginous rings, but the transverse muscle is no longer to be perceived. The cartilaginous portions gradually undergo considerable change. They lose their circular form—two or three pieces unite to constitute each ring—they become irregular in their shape, and at length they disappear altogether. The terminating sacs seem to be composed of gossamer membrane, and between and around each of

them, the blood from the left side of the heart ramifies in innumerable capillary tubes. It is thus brought if not into immediate contact with the atmospheric air conveyed hither through the bronchial passages, yet sufficiently so for that all-important change to be effected in it by which it is arterialized or vitalized. The pulsatory action of the heart, and probably the vital energy of the capillary vessels, sufficiently explain the constant passage of the blood; but how do we account for the supply and change of the air? The answer would seem to be easy,—by the alternate dilatation and subsidence of the lungs. This, however, would not satisfy either you or me. What is the cause of this alternate expansion and contraction of the lungs?

*The Pulmonary Plexus.*—The spinal organic nerve on either side having entered the chest, and pursuing its course to its ultimate destination, begins to send off numerous minute branches, which unite with others derived from the recurrent nerve, and form a plexus of nerves at the commencement of the bronchus. Pursuing its course, other and numerous filaments are given off which form a complete network behind the roots of the bronchial vessels, and penetrate with them into the lungs, distributing themselves upon their mucous surfaces, and accompanying them even to the air-cells; some branches from the ganglionic nerve, and from various detached ganglia situated in this neighbourhood, having united with them. These are the inferior and superior pulmonary plexus, and by which alone the lungs are supplied with nervous influence.

*The Muscles of the Bronchi.*—Now, in what way are these nerves concerned with or adequate to the dilatation and compression of the lungs? They ramify upon the mucous membrane of the bronchi. What is the structure of the bronchial tubes? Tiedeman says that, in the mammifera, on the mucous membrane where the cartilages cease to be visible, a layer of muscular fibres, arranged in a circle, is almost always seen. Mr. Sewell says that, fifteen years ago, he assured himself that the transverse muscle of the trachea of the horse extended into the bronchi, in which it assumed a circular form. M. Rigot has lately announced the existence of a muscular membrane or coat beneath the mucous membrane of the bronchi, the effect of which is the subsidence or contraction of the lungs, and that he has traced the greater part of the branches from the bronchial (pulmonary) plexus to these muscles. On the other hand, M. Girard makes no mention of the muscles of the bronchi. Mr. Percivall states that the bronchial tubes differ in structure from the trachea in having no muscular band; and I must confess, that although I have often sought for it in the horse and in the ox, I have never

been enabled satisfactorily to demonstrate it. Still, however, I believe it to exist; for I find the ultimate fibrils of these nerves, which I know to be those of organic motion and sensibility, ramifying upon the bronchial membrane and the ultimate vesicles, as plainly and as palpably as on other tissues of the sensation and the power of motion of which I have no manner of doubt. I therefore adopt the language of Dr. Quain, for whom, as an anatomist and a man, I entertain the deepest respect; "as the mucous membrane of the trachea is prolonged into the vesicles, and forms their lining, it is a legitimate matter of inference, from the various facts disclosed by the general anatomy of tissues, that the fibrous lamellæ and muscular structure extend to them also."

*The Excitor of the Nerves of the Pulmonary Plexus.*—Then, the nerves from these plexus, ramifying upon and governing the action of the muscles of the bronchi and the ultimate vesicles, what is their proper excitant? What is the office of these vessels? To give passage to and to contain atmospheric air, in order that its oxygen may be employed in uniting with and carrying away the carbon of the blood, and also that a portion of that oxygen may enter into and mingle with the circulating fluid. And what is the proper action of the muscles? To close upon and expel the air from which this oxygen has been extracted, and again to expand for the admission of a fresh supply. Then what is evidently the stimulus which rouses these nerves to contract? The presence and the animal consciousness of the existence of an undue quantity of carbonic acid gas—the compound of the carbon of the blood and the oxygen of the air—in these passages. Carbonic acid, existing in a certain proportion, is the stimulus or excitant of the nerves of the bronchi and the ultimate vesicles. The work of arterialization is suspended, and the worn-out and now deleterious gas is expelled, in order that more of the pabulum of life may be admitted.

*Experimental Proof of this.*—Take a natural or deep inspiration. You have admitted a certain portion of atmospheric air to be acted upon by the blood ramifying over the membrane of the vesicles. You presently begin to feel an indescribable uneasiness within the chest. You may struggle with it for awhile; but the seeming consciousness of approaching suffocation, compels you to make a deep expiration, and you are immediately relieved. You have got rid of the air charged with carbonic acid gas, and no longer able to support life; for, painfully irritating the bronchial membrane, the muscles have contracted upon it, and expelled it. Take two or three deep inspirations and expirations, by means of which you have completely expelled the vitiated

air, and you can suspend the expiration during double or treble the time that you could after ordinary breathing. It takes a longer time for the contained air to be so charged with carbon as to compel the expiration of it.

Incisions were made through the pleura of a dog, and a current of atmospheric air was driven down the trachea, and through the lungs. There was a constant supply of air for the arterialization of the blood. The breathing was suspended, but the dog lived. The artificial supply was then cut off, and from the injury done to the lungs, the breathing became convulsive to the highest degree.

Braschet took a puppy of a few days old, and excised a portion of the spinal organic nerve on each side. He plunged the muzzle of the dog into water. The supply of pure air was cut off, and the dog presently died; but, the spinal organic nerve being divided, there was nothing to convey to the medulla oblongata or to the brain the impression on the bronchial membrane, and there was not a struggle that could have reference to the respiratory apparatus. He plunged the muzzle of another puppy into the water without the division of these nerves, and he also died, but it was after long-continued convulsions.

*The Function of the Nerves of the Pulmonary Plexus.*—The office of these branches of the spinal organic nerves is evidently to cause the vesicles and the bronchial tubes to contract upon the contained air, and to expel a portion of that which had been vitiated by the abstraction of the oxygen, and the accumulation of carbonic acid. Without such an apparatus, this purpose could not have been accomplished. There are auxiliary agents of which I shall immediately speak, but which alone would not have been competent to the task. "If," says Dr. Quain, "the lungs were simply passive, and therefore incapable of contributing to the expulsion of the air, the subsidence of the thorax upon them would only press the air out of the parts near their surface, but could exert little influence over those that are deeply seated."

*The Auxiliary Muscles.*—But there are other muscles concerned in the act of expiration, far more powerful than those of which I have been speaking; such are the obliqui, the transversus, and the rectus abdominis, the quadratus lumborum, the serratus posticus inferior, and some others.

The act of expiration having been performed, the bronchi and the vesicles having to a certain degree collapsed upon their contents, they once more expand, partly by their inherent elasticity, more by a vital power which they possess, and which is to be traced in every vessel, and every part intimately connected with life, but

most of all by the action of certain muscles, the diaphragm the chief of them, and also the intercostals and the levators of the ribs, and the pectorales and the serrati magnus et posticus, and others. By means of these the cavity of the thorax is enlarged, the pressure on the surface of the lungs is removed, and, on the common principle of pneumatics, the air which is pressing on every side and on every part enters the nostrils, and passes down the trachea, and occupies once more the bronchi and the air-cells.

*The Excito-motory System.*—The nerves by which these auxiliary systems of muscles are governed, arise not from the same source as those which direct the contraction of the bronchial muscles, and have no direct connexion with them; affording another illustration of that system of sympathetic nervous influence which so satisfactorily explains many of the phenomena of life. There are certain muscles which are devoted to one special service; their number, however, has rapidly diminished since the researches of the physiologist and the pathologist have been so diligently and so successfully directed to the elucidation of the nervous system. There are certain nerves which usually are placed under the perfect control of the will: but at other times, without the command of the will, and in despite of it, are pressed into the service of organic life. Some of them performed most important offices before the will began to exert its power; and they now continue to be voluntary or involuntary muscles according as the powers of life demand their aid, or the will slumbers with regard to them. The most important functions of life are performed far more by these semi-voluntary muscles than by those which belong exclusively to organic life. We have had a striking instance of this in the bronchial muscles. Without them the air would have been imperfectly expressed from the central portions of the lungs; but their strength alone is weakness, and the effect absolute imperfection, compared with the assistance derived from the nerves of voluntary power. This connexion of nervous influence—this subserviency of the voluntary muscles to the purposes of life, prevents the undue accumulation of muscles, and the unseemly and inconvenient increase of bulk, without the slightest sacrifice of the comfort or welfare of the individual. The bronchial nerves are acted upon by the stimulus of the carbonic acid which is gathering in the tubes and the cells of the lungs. They are excited to their most apparent action—they cause the tubes and the air-cells to contract upon and to expel a portion of the air. While, however, they are doing this, the effect of the stimulus by which they were animated is conveyed to the source whence they sprung—the medulla oblongata,—and is reflected thence to the origins of other

nerves, belonging to another system ; and they also are excited to action, and the expulsion of the air from the cells of the lungs is effected, and that as perfectly as the welfare of the animal requires. It is thus alone that we can account for the first act of breathing in the new-born and untaught animal, and performed as perfectly and as effectually as in any period of after-life : it is thus alone that we can account for the performance of the function of respiration when the animal is asleep, and the will ceases to exert its power. I will not, however, weary you with farther repetition ; you will find this system of nervous action explained, perhaps not quite so lucidly as it might have been, yet satisfactorily so, in Dr. Marshall Hall's Lectures on, and Mr. Clark's Anatomy and Physiology of, the Nervous System.

Another lecture, I hope, will contain every thing novel which I wish to offer to you on the other divisions of the spinal organic and on the ganglionic nerve. The subject of rabies canina will then come before us.

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## LETTERS TO A STUDENT.

By A. B.

Mr. Editor,

I SEND you No. II of "Letters to a Student." No. I, I am told, has been attributed to yourself. This, though very flattering to me, may not be equally pleasing to you. The College students are not what they were if such a letter gave no offence. They may be improved. There may be less vice and less vanity ; but, if there be any, conjecture, slander and abuse will not be idle. Every fool, not knowing that his worthless insignificance attracts no attention, will think that he, and he alone, is the person alluded to.

As I do not choose that any man should stand in my place, whether for good or for ill, I wish it to be understood, that the Editor of THE VETERINARIAN *is not the author of these letters*. They are entirely my own ; and neither Mr. Youatt, nor any other person, has any thing whatever to do with them. They are written at the distance of many a mile from London, and, until they reach their destination, their existence is known to no being but myself. My name shall be told in good time : I will probably send it with the last letter. There may be three or four more ; but I cannot promise a precise number.

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## No. II.—THE ERRORS OF INQUIRY.

There are many kinds of erroneous investigation of which I can give no account. It would be well to have them described and arranged into classes; but that is a task for which I am quite unfit, and it belongs not to a veterinarian. I merely mean to point out one or two of the most obvious causes of error. The first to which I would direct your attention is, that of taking something for granted before it has been examined.

It is a general law of matter that one substance shall not operate upon another unless the two be placed in close approximation: the space between must be so little that none shall be perceived. This fact is learned at a very early period of man's existence. No one remembers how or when he was first aware of it, and few know that it is a piece of knowledge acquired by repeated observations. It is constantly in our possession, and no one heeds it; yet all act as no one could act without it. I mention this law merely that I may tell you of a few exceptions to it. You have at all times, and unconsciously, spoken and thought as if you had considered it a universal law. It is only general.

Among inanimate objects there are numerous and sublime examples of matter acting upon matter at a distance of infinite magnitude. There are others in which the distance is considerable, but not great. Such is the case in the phenomena exhibited by the magnet. You will find ample illustration of this in any treatise on astronomy and natural philosophy. I need not waste time in proving that which has been so long known.

Had all men been as familiar with the exceptions as with the general law, medical science would have had fewer errors than it now acknowledges. The examples of one substance acting upon another placed at a visible distance, are rare in the ordinary affairs of life. They are discovered only by systematic investigation. To ignorance of this fact may be traced many fruitless attempts to explain some vital phenomena, which may not, and to me certainly do not, appear to require any explanation, at least none such as that which is usually offered.

In a short time your attention will be called to the nervous system. You will learn the anatomical relations of the brain and the nerves. You will be told that the physiology of these parts is involved in a good deal of mystery. You will find that sensation depends upon the nerves, and that it is lost by dividing the nerves, or otherwise interrupting their connexion with the brain. The sentient nerves, it is said, are acted upon by the foreign body with which they come in contact. The impression is transmitted to the brain—but how? This is the point at

which error usually commences. Some means must be found of carrying the foreign body to the brain. Some contend that there is a fluid in the nerves, which oscillates backward and forward, from the skin to the brain, and from the brain to the muscles; according to others there is no such fluid, but a vibration in the texture of the nerves every time they receive an external impression. A third hypothesis has been invented, which converts the nervous system into a galvanic apparatus. After a great deal of argument for and against these conjectural explanations, you are probably dismissed with a reflection, that this subject is one of great obscurity; that it has hitherto baffled human inquiry, and seems likely to do so for ever.

Here you have a very simple process rendered as intricate as error and bad reasoning can well make it. There are not less than three attempts to carry something to the brain, to bring the impressing agent in close contact with the distant organ by which it is supposed the impression is received. The inventors of these hypotheses seem to have thought that there is no possibility of acting upon the brain without striking it, or sending something to it, or taking something from it.

It is almost unnecessary to observe, that there is no direct proof in support of any of the assertions.

Such explanations would never have been offered, or they would not have been received, if men had not been in the constant habit of associating action with contact. Let it be granted that the nerves do vibrate, or that there is a nervous fluid traversing the cords of sensation, from one extremity to another, is the process of sensation in any degree less wonderful than before?

The brain and the nerves form but one organ. Considered in relation to their functions, they are as inseparable as the air-vessels and the bloodvessels of the lungs. Each part has a task of its own; but that task cannot be performed without the assistance and integrity of other parts. That the nerves may perform their function, it is an essential condition that they be continuous with the brain. But this condition neither proves nor implies the transmission of a fluid, nor of an impulse. Either, it is possible, may exist, but at present its existence is entirely conjectural and unnecessary.

The hypotheses now, or lately, current regarding conception, afford another illustration of our tendency to suppose a vital process explained so soon as it is shewn to bear some analogy to the phenomena with which we have been long familiar. Here, as in sensation, there are the same efforts to produce contact, when we are far from being sure that contact is necessary. After the uterus has received the semen, a change takes place in the

ovaria. One of their vesicles is detached and conveyed to the uterus, where it undergoes several transformations. That the process originates in the presence of the semen is proved beyond doubt. There is no dispute about this. But, then, the semen must be conveyed to the ova upon which it is to act, and a passage is found by the Fallopian tubes; but as there is some difficulty in shewing how these tubes are able to seize the fluid, other hypotheses have been invented. By some it is supposed that the semen is absorbed and carried to the ovaria by means of the blood, while others contend that "the subtile prolific aura of the semen virile," not the semen itself, ascends and passes along the duct by which the ova is brought to the uterus.

The process of impregnation is quite as lucid before as after these explanations. There is not, surely, any absurdity in supposing that the presence of the semen in the uterus is quite a sufficient cause of a change in the ovaria. This is all that we truly know, and, perhaps, there is nothing more to be known. An irritant applied to the glottis is instantly followed by a convulsive action of the abdominal and thoracic muscles; but no one supposes that the irritant touches those parts. It is possible, indeed, that the semen may produce a particular state of the uterus, or of other parts, by which germination is excited in the ova; but this is not what the theorists have been anxious to learn: the object of their investigations and reasoning has been to bring the semen and the ova into contact.

It would be an easy task to prolong this subject. Pathology, not less than physiology, abounds with numerous illustrations. I need only allude to the vain efforts to explain the operation of such a substance as a poisonous dose of prussic acid. It is not more wonderful that death takes place when prussic acid is applied to the tongue or to the throat, than when applied at once to the brain. Possibly it may, or must, reach that organ; but there is not the slightest reason for supposing that it does. There are very many errors of this kind in etiology.

In considering the effects produced by external agents, you are to discover, as far as possible, the changes in the order of their succession. In general, the first change is the cause of the second, the second of the third, and so on till the last. These subsequent effects are entirely dependent each upon that which it follows; and they occur whether the original cause does or does not exist. You must also remember, that substances, both animate and inanimate, operate upon each other at certain distances: in all cases there is some little or large space between them; and within certain limits, the change or effect varies with the distance. When a blister is applied to the skin, it appears

to be in close contact; but it really is not: there is always a narrow vacancy between the irritant and the nerves which it irritates. Were it possible to bring the two in closer contact, it is probable that the usual effect would not take place; and you already know that there is no effect when the interval is increased by the interposition of any neutral substance.

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## ON PUERPERAL FEVER IN CATTLE,

IN REPLY TO MR. WILSON.

*By Mr. FRIEND, of Walsall.*

Dear Sir,—Your last number of THE VETERINARIAN contains some concluding remarks by Mr. Wilson (as a continuation of his strictures on an article of mine, on the Etiology of Puerperal Fever); and you will oblige me by allowing the following reply a niche in that valuable publication.

My first feelings on reading his last remarks were decidedly against replying to them; but I afterwards reflected, that positive good has been effected by discussions carried on in this work, in which I have borne a part; and that it would be a more becoming act of courtesy towards Mr. Wilson to do so than to leave them unnoticed: hence this reply. You will recollect the discussion carried on between Mr. Harrison and myself on Hematuria, the Effects of Purgatives on Cattle, &c. characterized only by the “retort courteous.” There is unequivocal proof that that discussion has been serviceable to some in the profession, in an article by Mr. B. Bull, of Launceston, in the October number of last year. And on the present subject, there is surely enough to shew, that this new theory has created for itself an interest in the minds of those of the profession engaged in cattle practice, by what has been said by Mr. Anderson of Leicester, Mr. Holford of Northwich, and others. And though the discussion between Mr. Wilson and myself has been the angry collision of the flint and steel, let me indulge a hope, that a spark may be elicited, which, spreading amongst the intelligence and research of many of your talented contributors, may light up a blaze of truth that shall distinctly shew the way to the origin of this peculiar malady.

Mr. Wilson returns, on this occasion, to the March number, and tells us that I said there “that fever or inflammation is not a

cause but a consequence, and that the origin of this disease was not traced or pointed out by any writer." To prove the incorrectness of this last remark, he refers me to the work on Cattle, in the Library of Useful Knowledge, which he appears to think I have not seen. As he has read the work himself, he must have found, that the author has on several occasions availed himself of my opinions; and I am surprised he should not have supposed (in fact, he must have seen) that we had been in actual correspondence previous to its publication. I believe at that time we coincided in opinion as to the causes and treatment of this disease; but I have since then (in carrying on the subject) been induced to suppose that it has its origin in disease of the nervous system, and chiefly of the organic motor nerves; and though I do not know whether the opinion of the author of that work has undergone any change, I am certain he will spare no pains to ascertain its correctness or incorrectness, and that he would be the first to point out any error of which he felt himself convicted. Mr. Wilson must prove this new theory wrong before he can charge me with *incorrectness*, in saying that no one before had *distinctly* pointed out the origin of puerperal fever.

The other part of the sentence is of considerably more importance, whether fever is a *cause* or a *consequence* in this disease. Mr. Wilson has laboured to shew that it is a *cause*. He has taken some pains to prove that there is always fever in these cases. But even if he were correct in this, it does not follow that it must be the *cause*; and there are circumstances occasionally occurring, which prove, I think, that it must be a *consequence*. Let him look again at a case of mine, detailed in THE VETERINARIAN for March: there was, as I then said, no inflammation of the internal organs, but most decided proofs of great suffering in the nervous system. Now, to suppose fever to have existed, which did not affect the vascular system, would presuppose that it first affects the nervous system in this disease, and this would bring the argument to the same conclusion which I have done.

Mr. Wilson talks though "of fever, of puerperal fever, *arising from some causes*." He has stated those which he says may produce it. The first he calls "inflammation acute, or sub-acute;" the third, "the lost balance of the circulation, where there is a determination of blood to the deeper seated parts." Pray where is the difference in these two? If the determination of blood to any part be so great as to destroy the balance of the circulation, I should like to know what it can be *but inflammation*? But he admits another, "arising from some functional derangement of some organ or organs, having as yet no connexion with inflam-

matory action." What if this should be (as I have supposed it to be) *disease of the organic motor nerves*? What so likely? In short, Sir, if it be from this *undefined cause at all, it must be of the nerves*. He adds, though, that it "is not of much consequence to know from which of these causes it does arise." If this be his opinion, he is wrong to quarrel with those who are anxious to trace events to their causes; and if he will not go with them, he should be content to stay alone in peace, without wishing to deter others from proceeding without him.

After this, Mr. Wilson seems to think that he has shewn with "*sufficient clearness* that, in puerperal fever, fever is the *cause and not the consequence* of some other disease." Let us review the proofs, as he has offered them to us. He says there is "complete loss of appetite,"—"rumination is suspended." The first may be, and no doubt is, the consequence of the second; for where there are no means of getting rid of the load already oppressing the stomachs, it is not reasonable to suppose that there should be a craving for more. Now for the second: He may find many cases of decided fever where rumination is still carried on to a certain extent (proving that fever does not necessarily destroy this important function), but no single case in this disease, where the animal is down, that rumination is not totally suspended. Next, "severe constipation." This may or may not be a consequence of fever. You have purging often accompanying fever in cattle as well as constipation. But if I am correct, if the organic motor nerves are affected, constipation must follow, from loss of stimuli.—Next he says, "great prostration of strength:" I call this paralysis of the hind extremities; and I really do feel surprised that Mr. Wilson will shut his eyes to this important fact. If it were really occasioned by fever, why do not fevers always produce it? They are common enough in cows; and yet there is no disease but this particular one that produces this extreme affection. And again, if fever does produce it, how comes it, that it is not a gradually increasing debility? I could call upon many contributors to your work, who would recollect cows in fine condition, in possession of the fullest extent of their powers, that have been down, unable to rise, in two or three hours after being allowed to feed (soon after calving) in a pasture too rich and luxuriant—a time in which fever could not possibly have produced this debility.

These, Sir, with the fact that his three cases of puerperal fever got well under a system of depletion and purgatives, are what he rests upon to prove that my doctrine is unsound. Now, as I have shewn, that though fever may accompany, yet that it is not absolutely necessary to produce the foregoing results, and

that such results, on the contrary, must unavoidably follow disease of the organic motor nerves, I must leave it to your readers to determine from their own researches the correctness or incorrectness of the argument.

But, Sir, this is too good an opportunity to glance at the consistency of Mr. Wilson's doctrine of fevers, for me to allow it to escape. He calls upon us to acknowledge, that he has with "*sufficient clearness*" proved "*that fever is a cause and not a consequence in this disease;*" and yet, in the very teeth of this, he has just been strenuously endeavouring to shew us, that "*fever is produced by one of these causes,*" which he states. Which part of his string of arguments can he wish us to believe? We cannot possibly admit both; for if one part is not as flat a contradiction to the other part as I ever saw in my life, I must have lost all correct notions of the relative meaning of cause and effect.

Again; in another place he asks "whether any of the symptoms which accompany puerperal fever were ever found to exist without a considerable degree of fever, *after the first bad symptom had been recognized.*" After this! "Ay, there's the rub!" as Shakespeare and St. John Long would say. After this! What! a primary cause to follow after the effect? Why, it would scarcely require a disciple of Locke or Malbranche to prove, that this also involves a complete contradiction.

He winds up this most lucid list of arguments with a most alarming climax, referring us to my doctrine, and his own practice, in the three cases beforementioned. He says, "if any one will say it would be good practice, I would only reply, that there never was a delusion so gross, a hypothesis so ill-supported; never was practice so atrocious, and at variance with common sense. In a word, it would be a most impudent insult to the commonest understanding."

And yet, Sir, in defiance of this ban, I beg leave to say, that in "*disease of the nervous substance*" accompanied (as is the case in puerperal fever) with such excessive constipation, &c., I would perpetrate this "atrocious practice" of bleeding extremely, and employing strong purgatives, &c. And I will instance a disease that comes the nearest to it of any that I know for affecting the brain and nervous system to a certain extent, and the digestive organs also, where I have succeeded in many cases by this very "atrocious practice;" I mean staggers in the horse. I have seen my father, too, in this case, cord the horse, open both jugulars at once, when it was impossible to catch the blood, and when the only limit to the quantity was what the animal could bear, and give twice or thrice as much aloes as would purge a

horse under ordinary circumstances, and this followed up by a considerable quantity of other purgative medicines, with the most happy results. In short, Sir, it could only be the loss of motor action that could have warranted Mr. Wilson's extreme mode of treatment in the cases he has recorded; and he ought to have reflected, that if, by any possibility, my theory is found at last to be the true one, the whole weight of these opprobrious anathemas will fall on his own defenceless head.

Mr. Wilson also seems to ground his doctrine partly on the supposition that he gave precisely the proper quantity of medicine, and abstracted the exact quantity of blood requisite in each of his cases,—because they all recovered. The inference here drawn may or may not be a correct one. There are cases, I believe, which, so far from owing any thing to our endeavours, get well in spite of us. I will not quarrel with his practice, however, though it is my opinion that part of it might have been superseded by a more advantageous one; but as this is simply my opinion, I will not urge it.

To prove that I do not mistake him here, take the inference he has drawn in his own words:—"The point in dispute is simply a rule-of-three question. If so much bleeding and medicine did great good, will not much less of both do ill? Most assuredly it would." Now, Sir, as it is possibly the last time that Mr. Wilson and I may meet in your pages, pray allow me to give him a word of advice. Never work your pathological questions by the rule-of-three. It is bad, very bad. Cocker would not recommend it. There is a better rule, a much better; have patience, you will come to it by and by:—it is practice. I have somewhere heard of an unfortunate fellow, who, fatally for himself, worked his own case by the rule-of-three. It will serve to illustrate the folly of it. He was attended by his surgeon for some illness, and he had sent him a box of pills, "two to be taken every night." He followed the direction exactly the first night, and, finding himself much better the next morning, he felt highly indignant at his medical attendant. "Why (said he) it is quite clear to me, that he wishes to protract my recovery much longer than is necessary. This is simply a rule-of-three question. If two pills have relieved me so much in twelve hours, what must the whole twenty-four have done in the same time? It is as plain as any proposition can be, that I must have been quite well by this time." He took the remainder on the strength of this reasoning, and never worked another rule-of-three question.

In adverting to a mistake of his (in calling the paralyzed state of the animal debility, &c. which he says "arose from his

writing without thinking much upon the matter\*") Mr. Wilson facetiously observes, that "*I have got a hair to make a tether o'.*" I have, Sir; and I have got the only hair upon which his system hung. If it is not debility, it must be paralysis. Finding that I thoroughly exposed the absurdity of his doctrine on this head in the December number, he now gives it another name, equally wide of the truth. "Oppression, from the balance of the circulation being upset!" Oppression of what, and where? His avowed doctrine is that inflammation begins in the uterus, gradually extending to other viscera in the abdomen, &c. Now, how can oppression of these parts possibly prevent the action of those muscles more particularly engaged in raising and supporting the hind extremities?—and if the balance of the circulation be upset, as he terms it, how happens it that all the loss of the vital principle is from the hind and none from the fore extremities? Besides, Sir, if this were correct, every rapid and extensive determination of blood to the thoracic or abdominal viscera would produce the same effect. And yet it is a remarkable fact, that this is by no means the case. So far from it, the reverse is much more general. Look, for instance, at the violent attack of pneumonia, a case which generally abstracts a greater quantity of blood from the extremities, by congestion in the lungs, than almost any other; and yet, for peculiar reasons connected with respiration, the animal will almost always remain standing till near dissolution.

But, Sir, the absurdity of this doctrine is not only shewn by negative propositions, but there is abundance of evidence to prove that in many cases it is perfectly impossible that the falling of cows in puerperal fever can be produced by the causes which he assigns, *because they do not exist at all*. In THE VETERINARIAN for February 1834, there is an article on this subject by an excellent contributor to that work (Mr. G. Bainbridge, of Saffron Walden), the whole tenor of which so strongly corroborates my doctrine, that I feel astonished that I have not before noticed it. He says particularly, in one place, "*in several cases that I have examined after death, I have found the womb and all other internal organs perfectly healthy.*" I will not weaken the force of this most extraordinary fact by one single comment.

In Mr. Wilson's concluding lines he says, that, in my reply to his last, "my illustrations were so unhappy, my arguments so weak and worn out, &c." "that he shall take no further notice of any future ones by me or any one else on the foregoing opi-

\* I readily admit the apology.—E. A. F.

nions." It would not become me, Sir, to contradict this statement; but I may be allowed to express astonishment that in this very article of his he has not been able to overturn or even weaken one of these "worn-out arguments;" but has been obliged to turn to the Number for March last for the whole of the matter for this paper; and all that he has been able to object to in this very objectionable article, is, that I have mis-stated him. This, Sir, in due time, I shall take notice of; but first I must remark on the tone of exultation with which he contrasts the success of his cases with mine. He is quite welcome to all the assistance that this may afford to his opinions. Yet you must allow me to state to him, that I did not send my cases to *THE VETERINARIAN* to make a boast of them; and if it were necessary, I might tell him that these are not all my successful cases that appear in *THE VETERINARIAN*; but he ought to know that, from the very nature of the proofs I wished to establish, I was obliged to record unsuccessful ones; how else could I have given post-mortem examinations? But I might get into the very error which I wish to correct, if I said more of myself here, and I refrain; though I intend to indulge myself for this forbearance with a smile at Mr. Wilson's excessive fondness for the rule-of-three. He says again, "If I have saved the first three cases, (by the means heretofore mentioned), surely it may be inferred that I shall save the next three, entrusted to my care, by the same mode of treatment."

Such, Sir, are the gilded day-dreams of youth and inexperience. Most of us, after we have first restored to convalescence some of our worst and most alarming cases of disease, have been ready with Mr. Wilson, in a tone of exultation, to congratulate ourselves that we have surmounted the highest hill of difficulty, and that in all such cases, for the future, we shall be able to claim the meed of the conqueror. But the stubborn realities of life are not to be overturned by the enthusiast. It matters not that high in hope, strong in the confidence of his own ability, and his brow flushed with the pride of recent victory, he may career along the high road of existence: without the lamp of experience to guide him, he is sure, by running his head against a post, to awaken to the full consciousness of that stern truth, that

"'Tis not in mortals to command success."

But the balance of good and evil in this world is, perhaps, more equally adjusted than we generally at first sight can discover: we discern it not, because we will not, or because we view it through a wrong medium. For instance; it is precisely this

uncertainty, in the adaptation of particular means to particular ends in pathology, by which we veterinary surgeons live. If it were not so in this case, the world would know, from this report of Mr. Wilson, all it would require to know of the treatment of puerperal fever; and a few more such victories, and we might exclaim, with a sigh,

“Othello’s occupation’s gone.”

After just quoting Shakespeare myself, I am now going to find fault with Mr. Wilson; not for quoting him, though, but for misapplying the quotation. In continuation of the inference he has been drawing from his rule-of-three proposition, he adds, “that his teacher may feel quite satisfied that the treatment was judicious,” *because* “all’s well that ends well.” I will not do his teacher the injustice to suppose that his estimate of the value to be attached to the mode of treatment adopted would be directed solely by the result. He knows too well that we often deserve credit for both skill and attention in those cases that are lost, while many that recover owe, perhaps, but little to us of either. To be brief, however:—Mr. Wilson’s inference, that “all’s well that ends well,” involves this palpable absurdity—that in all cases that recover, the treatment must have been *judicious*.

As I have before said, he has accused me of mis-stating him respecting the nerves. I beg to deny the charge. I have turned again to the part in question, and I find that he was attempting to confute the justness of a remark of mine, “that the nerves were part and parcel of the brain, &c.” And no one could suppose but that when I emphatically said “the nerves,” I must have meant, in that case, the nervous system generally. And as to himself, he has repeatedly denied the connexion existing, by saying, in an equally emphatic manner, “that the nerves do not spring from the brain.” And to make certain that I could not have mistaken him, in supposing he was speaking (as I was) of the nervous system as a whole, he has actually made use of the term itself, thus making it so direct, that it leaves nothing to infer. He says, “it is equally true that disease may disturb and derange the functions of the brain, without impairing the usefulness or vigour of the *nervous system*, and *vice versâ*.” And, Sir, what could his anecdote of the child who continued to live without a brain mean? Was it not avowedly introduced to prove that the connexion between the brain and nervous system was not a necessary one? If, then, the common acceptance of these terms is to be any guide to us

at all, it is quite certain that I have not mis-stated him. And all who will take the trouble to examine what we have each said, will, I am sure, acquit me of it.

Mr. Wilson must not be displeased (particularly as he has by no means confined himself to my reply in his last articles) that I have thought proper, in this Number, to defend my own opinions. I have endeavoured to treat him as one who had quitted the field; and I am sure, Sir, you will acknowledge that I have not said behind his back what I should have scrupled to say to his face.

Very respectfully your's.

## ON DISEASED OVARIA.

*By Mr. MAYER, Sen., Newcastle-under-Line.*

Mr. Editor,

THE following account of diseased ovaria is one which I forwarded some years ago to my respected friend, Mr. Sewell; and as it will form another interesting addition to the catalogue of morbid affections incident to the horse species, I have great pleasure in sending it you for insertion in your valuable Journal.

Fortunately for us it is of very rare occurrence; for although we may palliate and retard its progress, yet it ultimately, sooner or later, terminates fatally, *unless the enlargement, which is not impossible, remains stationary at a certain point* which does not interfere with the functions of the other surrounding viscera.

Unfortunately the ovaria goes through its early derangement and alteration of structure before we suspect or are aware of the true nature of the disease, unless we make an early examination of the parts per anum, and which we ought always to do in what appears obscure bowel affections. In the human subject, though not a common disease, it is of more frequent occurrence, from our very artificial and luxurious mode of living; but animals, who only act under the simple laws of instinct, and who are freed from those varied and exciting causes which are brought into operation by the vicious and immoral part of the human species, do not so frequently pay the full penalty attached to such habits.

In the early stages of the disease, had we an opportunity of marking its early progress, there would, I think, be detected slight and occasional griping pains from time to time, accompanied with febrile action; the urinary organs would also, from sympathy, be temporarily deranged, and the bladder more irritable: but to common observers this would be lost sight of, and the case be merged into one of common gripes or cholice; nor

would the true nature of it be suspected till the enlargement had increased so far as to protrude into the pelvis, and, by its pressure upon the course of the rectum and that of the urethra, form a partial impediment to the free course of the fæces and urine. At the same time the labia pudendi become thickened and enlarged; and their absorbents and bloodvessels in a varicose state, forming a strong diagnostic symptom conjointly with the others already enumerated. The causes of this peculiar disease are very obscure, some constitutions being more prone to glandular affections and disease than others; but why we cannot tell. In the human subject, one of the most frequent exciting causes is an excess in venery. The treatment should consist in keeping the fæces soluble by the least irritating purgatives, such as *ol. lini.*, *sal. Glaub.*, *sal. Epsom*, &c.; at the same time pushing to the utmost the administration of the hydriodate of potash conjoined with extract of hemlock. The diet should consist of flax-seed mash, nice choice hay, or, when the season allows, green meat. Whenever the animal is attacked with much occasional pain, and rolling about from its urgency, depletion should be had recourse to, according to the violence of the symptoms; hot fomentations should be applied to the pubic region, warm clysters frequently injected into the rectum, and antiphlogistic remedies administered internally, till the urgent symptoms are removed, when the previous treatment must be steadily resorted to again. No mare should be allowed to be put to the horse under these circumstances.

The following case will elucidate the character of diseased ovaria, and the symptoms by which they are marked. It was that of a half-bred mare, belonging to a farmer resident eighteen miles off, who had had a farrier in his own neighbourhood to attend upon her for some time without any good effect being produced; he therefore brought her over with difficulty to our establishment, and left her in our care. On inquiry, we found that she had been gradually sinking in flesh for a length of time, as was supposed from a surfeit (although kept well); was constantly down, and had, when getting up again, considerable difficulty in raising her hinder parts. On observing her myself, I found that, added to these symptoms, she had much pain, which was expressed by her frequent disposition to lie down, looking towards her flanks, groaning, and rolling upon her back, and this being aggravated on either voiding her fæces or emitting her urine. Her appetite varied considerably at different periods; sometimes, when free from the paroxysms, being tolerably good, at others very indifferent. As the disease advanced, her appetite diminished; the emission of urine was frequent, irregular in quantity, and

high coloured ; the fæces came away in scybalæ, in small quantities at a time, and covered with much mucus and lymph, shewing, together with the great pain and difficulty in getting rid of them, a serious point of obstruction to their course somewhere. Towards the close of the disease, the animal could not raise the hinder parts ; the pulse was vibrating at 80 per minute ; tremors of the voluntary muscles occurred ; and we consequently put an end to the poor animal's further sufferings.

*Morbid Appearances.*—On opening the abdomen, there was nothing particular in view except the large intestines ; but as soon as these were turned to one side, a very considerable tumour presented itself, appearing not only to occupy the cavity of the pelvis, but likewise the regio pubis, stretching itself along the left side of the lumbar region, as far as the left kidney : the other portion pointing towards the right lumbar region occupied no more than the pubic division of the abdomen. The right kidney appeared diminished in size, of a leaden hue, and much firmer to the touch than natural ; the left kidney was enlarged, but exhibited externally its natural healthy appearance.

The parts surrounding the whole were now carefully taken out, and, on a minute examination, I found that the ovaria had become diseased, that on the left being scirrhus, and the other in a state of dropsy. As the scirrhus ovarium, from its great size, was completely wedged into the pelvic cavity, I was necessitated to divide the symphysis pubis before I could get a clear view of its dimensions, and disengage it from its attachment. Its shape was triangular, two angles being directed into the abdominal cavity, and the third into the pelvic cavity, occupying the greater portion of it. It had completely lost all vestige of its original and natural structure, and presented one extended homogeneous yellow-coloured scirrhus mass, not weighing less than from twenty to twenty-five pounds, and connecting itself by a kind of projecting isthmus across to the opposite ovarium and fallopian tubes. When cut into, it was made up of a congeries of abscesses, each having a distinct sac, the walls of which were made up of half-organized lymph. The right ovarium retained its natural structure, being very vascular, enlarged to the size of a large foot-ball, and distended with a serous fluid. How far this latter phenomenon depended upon the impregnated state of the uterus, as the mare was in foal, the fœtus being about the size of a cat, I do not know. This circumstance was very remarkable, as clearly shewing the capability of one ovarium being perfectly competent to the fulfilling the functions of generation in the female, as one testicle is in the male ; a wise provision of Nature, and shewing how providently her arrangements

are made for the propagation of every species of animal. On making a section of the left kidney, no trace of disease evinced itself; but on cutting through the right one, it was in a complete scirrhus, disorganized state, and full of small tubercles, situated at the origin and along the course of the tubuli uriniferi, so that it must have been quite incapable of performing its functions.

Wishing you every success and support as regards your Journal,

I remain,

Your's truly.

## THE MEDICINAL PROPERTIES OF NITRE.

*By Mr. MORTON, Royal Veterinary College.*

*To the Editor of "The Veterinarian."*

YOU will oblige me by causing the word "distilled" to be erased from my description of the manner in which arsenious acid is separated from substances with which it is in combination by means of nascent hydrogen.

I am glad to see Mr. Cupiss among the contributors to your Journal. From him the profession has a right to expect much; nor will it, I feel assured, be disappointed. His experiments on poisonous substances will doubtlessly set at rest many conflicting statements, and fill up an hiatus which has long existed.

In your last is recorded by him the action of nitrate of potash when given in a very large dose. Will another experiment prove at all interesting? It is as follows:

To a horse, aged, but apparently in health, two pounds of the nitrate of potash dissolved in six pounds of water were administered. Pulse 32. In half an hour some irritation of the intestines was manifested by the animal's frequently voiding faecal matter in small quantities; and soon afterwards the kidneys were acted upon. The urine was not so much increased in quantity as it was frequently discharged. In four hours the pulse had risen to 54 beats in the minute; the respiration was untr tranquil; and the mucous lining of the nostrils highly injected and of a purple hue. Some blood being abstracted from the jugular vein, its appearance closely resembled arterial blood, nor did it freely coagulate. In its serum, faint traces only of the existence of the salt could be detected, but on evaporating the urine it was obtained in abundance in a crystallized state. At the termination of six hours after the exhibition of the agent, the pulse was 48, and the animal continued frequently to void both dung and

urine. On the following morning all the effects of the medicine had disappeared.

I am sorry I cannot entirely agree with Mr. Cupiss in the inferences which he seems to draw from his experiments as to the value of this medicament. I believe it to be one advantageously employed as a febrifuge and diuretic. As to the first, I should give it in the form of ball, so that it might undergo solution in the stomach and alimentary canal; the latter I should give in solution, that it might be quickly taken up and conveyed to the renal glands. The quantity should not exceed an ounce in the day, and half of this would be preferred by me. That corresponding increased action does not take place with augmentation of the dose is not surprising, it being well known, that, if glandular structures are slightly inflamed, their function is increased; but if highly so, they cease to secrete.

Is Mr. Cupiss right in attributing spasmodic constriction of the neck of the bladder to this agent? Did not that which took place arise rather from an over-distention of the viscus, so that it was unable to contract upon its contents?

Trusting that these little differences in views will be accepted as meant, I am, &c.

## NEUROTOMY.

*By Mr. CHARLES MORRIS, Bideford, Devon.*

August 28th, 1835.—I WAS requested by Mr. John Wills, of Bridford, to see a mare of his that was lame. She had previously been seen by many farriers in the neighbourhood, all of whom had pronounced her lame in her shoulder, and had recommended the owner to turn her out to grass “to run herself sound,” which the owner had actually done for two years, the mare remaining, of course, as lame as ever. The first year this mare had a foal, the last year none; owing, I have no doubt, to the excessive irritation that was caused by the lameness, which increased perceptibly during every month. I proceeded to the field she was in, and having caught her examined her, and found her lame in the coffin-joint of the off fore leg; and so acute was the lameness, that, on taking up the near fore leg, she immediately fell to the ground. The foot was but very little contracted, and not much smaller than the near fore foot. I was informed by the owner that he would not be at any great expense about her, so that I at once recommended her to be nerved, to which he readily assented; and, having taken her to the stable, I abstracted from the foot between three and four quarts of blood, and

directed a cold application to be kept constantly applied to the leg and foot, and four bran meshes (warm) to be given her daily.

**31st.**—Finding the leg and foot sufficiently cool, and having cast the mare and properly secured her, I proceeded to operate, preferring the upper section to the lower, it being sometimes necessary to perform the higher operation after the lower, and also the eyes of all the farriers in the neighbourhood being on me ; so that had I performed the lower operation, and failed, they would have readily caught hold of it, and circulated reports much to my injury and reputation as a young practitioner. Having made a section about two inches long, and cleared away the integuments, exposing the artery, vein, and nerve, I cut away about one inch of the nerve, and, having turned the mare, did the like on the contrary side of her leg. I placed two sutures on each wound, and kept the edges together by means of strips of adhesive plaister. Being now freed from her shackles, she walked away without the least lameness, much to the surprise of the people present, and to the delight of the owner. I had her again placed in the stable, and tied up to the rack, to prevent her biting her leg, and directed the cold applications and the meshes to be continued.

*September 2d.*—The inside section was nearly healed, and the sutures had given way, both on the inside and outside section. Continued the adhesive plaister.

*4th.*—The owner had incautiously turned her out again to grass, thinking that she was quite well : she bit off her bandage, and again laid open both wounds. I brought the edges together with adhesive plaister, and had her again taken into the stable, and sent a cold lotion to be applied outside the bandage, and to be kept constantly wet. She was very lame.

*6th.*—The wounds looked healthy, and she could walk without lameness on an even surface ; but on being walked on a stony surface, she went lame.

*8th.*—Walks without lameness, and wounds better : discontinued the cold lotions.

*10th.*—Inside wound healed, and walks without lameness, but could not trot without lameness.

*12th.*—The outside wound is nearly healed. Ordered her to be shod with a thick-heeled shoe, to wear a boot around her leg, and to be turned out to grass.

*18th.*—The granulations had increased above the surface, and I applied the lunar caustic.

*24th.*—Wound no better : applied the actual cautery and continued the plaisters.

27th.—Wound better : continue the plaisters. She can now trot without lameness.

30th.—The wound was healed ; but I still continued the boot on the leg.

October 16th.—The mare was put into a cart, and drew a load of reed to a farmer about two miles distant : she now goes as sound as any horse he has, and stands into ploughing, harrowing, &c. the same as his other horses.

This mare continued perfectly sound up to the period of her death, about four months after : she died of some internal inflammation, what I cannot say, as I did not attend her, the distance I reside from the owner being fourteen miles.

## CASE II.

About the 6th of July, 1836, W. C. Radley, Esq., surgeon, of Newton Abbot, requested me to see a mare of his that was lame. She is four years old, and has two ring-bones, one on the near leg before, and another on the near leg behind. These ring-bones began to form when she was twelve months old. She had been several times fired and blistered in both legs by a farrier previous to my coming here to reside. She was only lame in the near leg before, and, having attentively examined her, I was convinced that her only lameness was on the outside of the large pastern. I recommended her to be nerved, to which the owner assented ; and, having prepared her for a few days, on the 6th of July I performed the operation on the outer side only. The wound soon healed, and, a month after, I had the pleasure of seeing her trot and gallop, perfectly sound. Mr. Radley rides her when visiting his patients, and on all kinds of roads, and says she never stumbles, and that he prefers riding her to either of his horses. She is a well-bred mare, being out of a good hack mare, and got by a thorough-bred stallion.

## CASE III.

Mr. Petherick, coach proprietor, of Chudleigh, requested me on the 22d August, 1836, to see a mare of his that was lame in the coffin-joint of the off leg before. On inquiring into the case, I was informed that the mare had been lame for six months ; that she had been bled in the foot, and had cooling applications applied ; that she had been blistered several times, and also fired, without receiving the slightest benefit. I thought this would be a favourable case, so I recommended this mare to be nerved, to which Mr. Petherick readily assented ; as he thought that, if

this patient could be relieved, it would be of great benefit to him, and he should also be induced, when he had another case of the same sort, to apply earlier.

On the 27th of August, having properly prepared her, I performed the operation in the usual manner. There was nothing remarkable that occurred in the after-treatment : the wounds soon healed, and the mare remained sound for a month. She was then turned out to grass ; and in less than a week, from some unknown cause, she again fell lame. I applied a blister from the knee to the foot, and she seemed relieved. At this time the owner sold her to a farmer, who has since worked her on his farm, for which purpose she answers.

In this case I preferred the higher incision to the lower, on account of the long time the mare had been lame, although I well recollect that, when I was attending Mr. Sewell's lectures, he preferred the lower incision, in order that the horse may retain a portion of sensibility in the front of the foot. I must frankly admit that this case did not end so favourably as I expected ; but still, if she was not rendered fit for what is termed "fast work," she was for "slow :" before the operation she was entirely useless, but now she is fit for common farm purposes. Although this case was a partial failure, I shall not relax in my endeavours to promulgate the use of neurotomy. To Mr. Sewell we are indebted for bringing neurotomy so prominently forward, and I trust he will not relax in his praiseworthy endeavours to instil into the minds of his pupils the value of the operation ; for if we do not succeed in every case quite to our wishes, we save an infinity of pain and suffering to a valuable and patient servant of mankind.

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## SKETCH OF VETERINARY PRACTICE IN LONDON DURING THE YEAR 1836.

*By Mr. HARRY DAWS, Henrietta Street, Cavendish Square.*

JANUARY.—This month was ushered in by frost and snow, and, towards the close, there was an abundance of rain. It brought numerous cases of bronchitis and pleuritis, all of which recovered. The treatment was generally copious venesection, with opening medicine, and, if the weather was cold, the patients were kept warm. If the pulse remained frequent after the bleeding had been carried to a considerable extent, the extract of belladonna was given with beneficial results—counter-irritation

was also frequently used by means of the acetous infusion of cantharides.

One case of pneumonia and one of tetanus proved fatal.

Several cases of strangles came also under treatment.

One or two cases of considerable nervous affection came under notice. One was fatal.

**FEBRUARY.**—The weather has been alternately rainy and frosty, accompanied by cold north-easterly winds. Several cases of bronchitis have occurred, all of which, excepting one, terminated favourably.

One case of pneumonia and one of hepatirrhœa proved fatal.

Two cases of paraplegia from mechanical pressure on the spinal cord have been treated successfully.

**MARCH.**—The weather has been very changeable, sometimes fine and dry, at other times very wet, accompanied by cold winds from the north, east, and west. On one or two days, the heat almost of summer prevailed.

Disease has been very prevalent, and in many instances fatal in a short space of time.

In the early part of the month bronchitis was the prevailing disease; towards the latter part pleuritis was more observed. Most of these cases terminated successfully.

Several cases of acute pneumonia have come under notice, and in too many instances they have proved fatal. A few have degenerated into the sub-acute form. Abscess and hydrothorax were then the result.

Strangles have also been prevalent.

**APRIL.**—The weather has still continued very changeable, and towards the end of the month the wind has blown keenly from the north.

Disease has been prevalent, and very fatal. Bronchitis has been superseded by congestive fever. Many cases of strangles have come under notice, and several of pleuritis.

**MAY.**—The weather has been unusually cold, the wind has blown principally from the north and east, and the thermometer has scarcely indicated "temperate." Disease of all kinds has been plentiful. In the early part of the month, pneumonia was raging, and after that laminitis was of frequent occurrence. Nervous and paralytic affections have been prevalent and fatal—pleuritic disease has often been seen towards the latter part of the month. Influenza has also made its appearance, and is widely spreading.

**JUNE.**—The weather has been mild, and occasionally refreshing showers have fallen. Influenza has visited the majority of our stables, but it has assumed a mild form, and, with few

exceptions, has terminated fortunately. Nervous and paralytic affections still are of frequent occurrence. Symptomatic tetanus has been more observed than is usual. Metastasis of inflammation has in a variety of cases forced itself on our notice. In one case catarrhal fever was succeeded by pneumonia: that gave way to enteritis—to this laminitis succeeded. By careful treatment the horse recovered from all these complaints, and then sickened with strangles. In the cases of glanders that have occurred the lungs have been affected.

**JULY.**—This month has differed widely from its usual character, for it has been almost uniformly cold and rainy. The influenza has been prevalent, but comparatively few cases of a decidedly inflammatory character have occurred. Deaths among horses have been less numerous than usual.

**AUGUST.**—The early part of the month was temperate and dry. Nothing particular has occurred in veterinary practice, except the continued prevalence of the influenza. The patients labouring under this complaint became far more numerous during the thunder-storms that occurred in the middle of the month.

The character of this epidemic has been not a little various. There has not, in most cases, been much acceleration of the pulse, but a great deal of œdema of the head and extremities, accompanied by considerable debility. There has been an evident soreness in the direction of the flexor tendons. The eyelids have often been swollen to a very great extent, and some opacity has long been left on the cornea. A decided stupor, approaching to coma, has been observed in some patients. They have almost all been treated with depletion at the commencement, regulated by the circumstances of the case, and the very great majority of cases have terminated in resolution. Cases certainly have occurred in which the disease has ended in glanders, farcy, water in the chest, abscesses in the lungs, &c. It has been on the decline towards the latter part of the month. Pleuritic attacks have succeeded, and, in some instances, laminitis.

**SEPTEMBER.**—The weather has been cold and wet, occasionally assuming a winterly aspect. There has been but little disease. Chest affections, predisposing to hydrothorax, have been the most prevalent. A few cases of influenza remain. The extremities have been enormously swollen; and there has been considerable congestion in the capillaries of the Schneiderian and conjunctival membranes. The disease has sometimes resembled purpura hæmorrhagica, and scarlatina of the human subject.

**OCTOBER.**—The weather at the commencement of the month was fine and dry; it was very wet towards the middle of the

month, and there was frost and snow at the latter part of it. Influenza continues—it is perhaps more frequent than in the preceding month, but there has been little other disease, excepting chest affections in the cold weather. Influenza has assumed a still milder character.

NOVEMBER.—The early part of this month was frosty, the latter rainy, but temperate—occasionally windy. Many cases of gastritis and enteritis have occurred. Grease has been in abundance—pneumonia prevalent. Influenza still loiters, but is seldom dangerous now.

DECEMBER.—Much rain occasionally, and the mornings often frosty. Influenza again in abundance, and of a somewhat more serious character, with fever of a congestive nature; yet, on the whole, not many deaths. The latter part of the month was stormy, and suddenly changed to snow and cold. Then came bronchitis, but not very frequent, nor of a fearful character.

Some few affections of the abdominal viscera, producing violent diarrhœa and a state of collapse, have been observed; and in more than one instance have proved fatal, the animal sinking rapidly from inanition and exhaustion.

## APHTHÆ IN SHEEP.

*By Mr. RAWLINGS, of Bristol.*

THE following is a novel, interesting, and severe disease in a flock of ewes and lambs, and the mode of treatment used in its cure, as communicated to the Bristol Agricultural Society, at its annual meeting and exhibition in December last.

In the month of May, 1836, I was sent for to see the above flock, at Mr. Charles Marshall's, Snowhill, near Broadway, Worcestershire, who had lost several ewes and lambs previous to my seeing them.

I found seventy lambs in a most emaciated state, scarcely able to move: their mouths presented a mass of disease, being one complete ulcer.

On examination, I found a large fungus issuing from all around the *lower* gum, enveloping the teeth, and protruding over the lip to a *very considerable extent*.

There were about thirty still more or less affected. The disease clearly originated in the lower gum, and, when it was matured to any extent, the ewes refused to allow the lamb to suck, and it gradually pined away.

At this stage of the disease the lamb communicates it to the ewe's udder. As soon as she is affected, she begins to lose

flesh most rapidly; the udder becomes tumefied. In some of the extreme cases the udder suppurated, and parts of it, with one or both teats, sloughed, and the ewe was rendered useless for a stock ewe.

My first object was to get the flock separated; those severely affected, both ewes and lambs, from those less so; and to keep the sound ones in a distant field.

The disease being contagious, by carefully attending to this plan, and examining the flock, and removing those that became affected, and using the following detergent dressing, I succeeded in curing the whole. R Mel acetat. ℥ss., aluminis ust. ʒvj, cupr. vitriol ʒij: apply it every morning to the affected part.

Mr. Hyatt, at the adjoining farm, had his flock also affected, but did not allow it to progress; and by using the same means, his flock soon got well.

I have made every inquiry on the Cotswold Hills, and find no one ever saw in ewes and lambs any disease like it before.

One farmer at Radstock, in Somersetshire, said that, many years ago, in their neighbourhood he knew a similar disease, and it proved very fatal.

I have lately been at Mr. Charles Marshall's, Snowhill. I examined the whole of the flock. The lambs were quite well, but much less in size than those that had not been affected.

The ewes, about twenty in number, whose udders sloughed, were most of them fattened and gone to the butcher.

## VENTRAL HERNIA, WITH OPENING INTO THE COLON.

*By Mr. KARKEEK, of Truro.*

My dear Youatt,

I HAVE great pleasure in sending you the following interesting case for THE VETERINARIAN.

Ten years since a pony mare received an injury from the horn of a bullock on that portion of the abdomen situated between the cartilages of the false ribs, inclining a little to the left side, producing a *ventral hernia*, about the size of a cricket-ball.

About the middle of December last a rascally boy kicked the mare with the toe of his shoe directly on the ruptured part. This produced a very serious injury, and a blacksmith in the neighbourhood was employed to attend to the case. After a week's attendance, he managed, some way or other, to get an opening through the lacerated muscles into the colon itself—being that portion of its second flexure which forms the upper and anterior

arch; and the liquid and pulpy contents soon issued freely from the aperture. The mare continued for three weeks in this state, when I was requested to examine her, about the 6th January last. I found the opening was nearly large enough to admit my four fingers, and it had a very unhealthy appearance—the discharge of pulpy and watery food was great, and the smell very offensive—so much so, that it was with difficulty any person could be found to attend to her. The pulse was ranging from 50 to 60, and the appetite tolerably good.

In consequence of the mare being with colt, and an old favourite besides, the proprietor particularly requested me to endeavour to do something in the way of effecting a cure.

There were two favourable circumstances attending this case, which induced me to try—the length of time that had elapsed since the injury was effected, and the absence of inflammation.

Having cleansed the wound, I closed the opening with a strong suture of packing-thread, with a common packing-needle, taking in as much of the integuments and abdominal muscles as possible. I then applied a pledget of tow soaked in a solution of chloride of lime, and supported the whole by means of a thick woollen bandage, laced along the spine. I ordered the wound to be cleansed and the solution to be applied every morning, and her head to be tied to the rack, to prevent her from lying down. These directions were promptly and regularly attended to. I requested to be sent for should my attendance be required again, for I had very little hopes of producing a cure, and was unwilling to incur to the proprietor a useless expense.

About five weeks afterwards, being in the same neighbourhood, I called to inquire after my patient, when to my surprise I found her alive and well, the wound having completely healed.

Had this case happened nearer my residence, I should have endeavoured to have instituted some experiments with regard to the process of digestion on different kinds of food; and this, I believe, might have been done without endangering the life of the animal, as there was a copious discharge of food for three weeks previous to my attending the mare.

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## ON THE PRINCIPLES AND PRACTICES OF SHOEING HORSES.

“HORSES SHOD ON THE MOST APPROVED PRINCIPLES.”

“HORSES SHOD ON THE EXPANSION PRINCIPLE.”

I HAVE noticed this over many forges in and about the metropolis, and allude to them now, not with the intention of in-

quiring into the *principles* of either, for the very plain reason, that I have never yet known of horses having been shod upon principle, i. e. agreeable to the laws of nature, and admitting of no deviation. The perfection of this art, like others, would of necessity be that which came nearest to nature, or, strictly speaking, it would not be art.

I long ago *discovered*, for myself at least, the sophism that has misled the veterinary profession upon the subject of shoeing, to be the *making principles* out of their practice; and if we only go back to the period of the foundation of the College, we have had systems of shoeing enough, every one knows, but not one upon *principle*; and, we believe, no one will attempt to deny the definition of a principle: the result has been, that these systems, or, more properly speaking, modifications, have never come into general use. The ordinary method of shoeing is still practised throughout the country: the only difference I have observed, is more or less superiority of workmanship, for which difference in price is charged. It is not, therefore, altogether true, that the low price paid for shoeing is the cause that these modifications have not come into use. Do the smiths of Newmarket never get £20 for plating a winner? and is this not sufficient stimulus to produce something practically useful, to save the feet and legs of racers over the hard heath in summer and frost from the effects of percussion?

Do not sportsmen pay high prices for shoeing hunters? Are coach-proprietors and others so blind to their own interests, that, if any of these modifications had been as advantageous as their proposers thought, they would not have used them also? The style in which some of them do business is a sufficient answer that *price* would not be studied by them. I will not say it is a disgrace to the veterinary profession; for many of its members have shewn an ardent desire, and this, too, at some sacrifice of time and money, to bring what they individually thought advantageous into general use: all have, however, more or less failed. I will endeavour to explain the causes of failure upon the ground of *principle*, or, rather the want of *principle*, upon which the whole profession, with few exceptions, seem to have been influenced. Most of them have made principles matter of inference from their practice, few from direct inquiry; and these have always been bewildered by practice also: having no principle to go upon, they could never fairly emancipate themselves; they were slaves of the forge—with ideas tied down by so much per set of shoes, leather soles, stopping and all.

Mr. Moorcroft was well aware of the cause of the degradation of this art, and, with the intention of striking at the root of

the evil, had constructed by machinery his modification, with which I have nothing to do at present; but had he been able to make shoes, of any form, at fourpence each, instead of eightpence, he would have succeeded: but, confining himself to modification, he failed, and, I once heard him say, at the sacrifice of a greater sum than would now, in the present state of machinery, fully accomplish the object. Who will attempt any thing in the present state of the *trade*?—art it cannot be called.

The next attempt was accidental, originating in Mr. Goodwin having pattern shoes cast by Mr. Dudley: but he would not listen to the profession which applied to him for the shoes in ordinary use, and *fullered*. I thought at the time how it would end. Mr. Goodwin's modifications began, and the panic of 1825-26 put an end to the use of cast shoes. I was sorry for Mr. Dudley, and wished he had not committed the same error as Mr. Moorcroft and others; for I know, from practical experience, that the shoes might have been in use still. With the the forms of the ordinary shoes, the patent is nearly out; and, if Mr. Dudley does not get a renewal, by application to Parliament, some one else will attempt its introduction again; as a *discovery*, probably,—we have so many of them now-a-days. The shoes must be those in ordinary use; for I think it improbable to reconcile the conflicting opinions that exist on this subject in one shoe. I will attempt to explain this.

The common shoes have a flat surface next the ground; that next the hoof more or less concave, except at the heels, where they are flat, varying in substance, and oftener thicker at the heel than at the toe. The web is broader, according as the shoe is larger in size, and fullered in heavy shoes, sometimes counter-sunk nail holes, and nailed to the crust while the hoof is raised from the ground. There is no space between the hoof and shoe, and, to prevent the percussion which of necessity occurs from the weight of the horse upon the hoof when the shoe thus applied bears on the ground, the sole is pared, so as to allow of its descent. This acts as a spring, and the percussion is prevented in some degree. But percussion still happens opposite the heels and quarters, which cannot overcome the resistance opposed to the action of the hoof by the close application of the shoe. Now this is, we suppose, what is meant by “Shoeing on the most approved Principles,” i. e. the practice approved by those who follow the *trade* of shoeing horses throughout the country. It was therefore inferred, that the principles of shoeing were, that the crust only should bear on the shoe.

Mr. Moorcroft recommended the sole to have a bearing on the

shoe also, as it was found the sole could bear on the shoe without injury. This upset the *inferred principles*; but an endeavour was made to reconcile this inconsistency, by explaining that the reason was, that the sole at the toe was not opposed to sensible parts; that the principles were the same, notwithstanding the exception; and practice shewing that no bearing could be allowed of the sole on the shoe opposite the quarters and heels (the corn place, as it is called). Now it so happens, that the crust at the heels is as much opposite sensible parts as the sole at those parts, and, for the same reason, should not bear on the shoe: it cuts both ways. The frog, too, is opposite sensible parts, and yet it was especially recommended for pressure by its bearing on the bar-shoe, where the aforementioned sensible parts, opposite sole and heels, could have no bearing and pressure.

I was strangely puzzled to understand such logic as was attempted by these inferences from practice, and resolved, on the first opportunity, to institute direct inquiry into the matter. What was the result?—that the sole, frog, bars, crust, whether or not opposed to sensible parts, were bearing on the ground without injury being produced in horses without shoes, just in proportion to the *substance*, the unrestrained action of the hoof preventing all percussion; and that the same held good where horses were shod in those countries where great substance of hoof is left, and little substance of shoe is required, percussion and injury to sensible parts not happening there also. It is quite a mistaken notion to suppose that Englishmen do not go the pace in any other country but England; yet, although exposed to all that has been considered as the predisposing causes in greater degree, and the proximate cause in the rate and continuance of progression being equally as much, lameness does not often happen. In England, in the metropolis, and large towns, where higher prices are paid for shoeing, where the workmen are most skilful, where horses are what is called neater shod, where most substance of hoof is removed, agreeable to the supposed principles of shoeing, there are more lame horses than in the country, where the workmanship is rougher. I would rather have our horse shod in the ordinary way by the latter than the former, to go over the stones of the metropolis, where percussion is most likely to happen.

“The expansion principle” is a strange misnomer: it seems to imply that the hoof expanded; that hard and soft parts within it expanded also, which the anatomy and physiology of the foot deny. The superincumbent weight of the animal, not supported by the springs within the hoof, must ultimately fall perpendicularly on the last spring, that formed by the bases of the hoof on

the sole, bars, crust, and frog. We did not copy this puffing announcement from any particular forge; but in every part of the country, and the metropolis too, we have this "shoeing on improved," and on "new," and "the newest," and "the most approved," and "patent," and "Professor Coleman's," and "College," and "veterinarian," and "expansion principles:" and, added to this, and in perfect keeping, "Veterinary surgeon, smiths' work in general, and bell-hanging in all its branches;" while Mr. Coleman's patent, and other shoes *gilt*, occupy the upper corners of the board, and a frying-pan and a gridiron ornament the lower ones, and a goodly row of pots, pans, and kettles, fill the window. Out upon it! Are we come to this? The man who has a sign-board just over Bow Bridge, "all kinds of beasts *gelt*," is more a veterinary surgeon, and to him we recommend the public.

"*Principles most approved*" and "*Expansion*" appear to be distinct: there is a division as to the mode of receiving the weight from the last spring to the shoe, and ultimately conveying it from the shoe to the ground; the prevailing party believing that the structure and physiology of the foot and hoof consist of springs; that there is a depression of the sole, bars, crust, and frog, when the hoof is on the ground, and a recession of these parts when the foot is in the air: the substance of the sole is sacrificed to effect this depression of the sole, but no space is left between the heels and shoe to admit of the depression of the crust at the heels, which are opposite to sensible parts, as much as any portion of the sole. Both in light and heavy horses the consequence is percussion and alteration of form, often incurable lameness.

The inferred principle has been carried on more by the College and its students than by others, the modifications of Mr. Coleman having all this tendency, extrinsic to the form of the shoe. We were instructed to pare the soles of light horses, in some cases, as thin as paper, till they were pliable under the thumb, and to be particular in making the sole concave opposite the seat of corn; the effect of which was, to give this depression of the sole: but in heavy horses it increased the predisposing cause of corns, by destroying the substance of the sole; and the crust at the heels was sooner destroyed by concussion against the shoe, which then bore on the sole also. The bar-shoe was then had recourse to, and, to carry out the *principles*, it was said, that, as the public required one shoe to do for all horses, the bar-shoe was the only one applicable; but having been used only in extraordinary circumstances, the public will not use it as an ordinary shoe. Mr. Powis used it without the bar; but the Leverian shoe, as we believe he called it, though having a

space between it and the heels at the time of application, so as to admit of the action of the hoof; yet, after a few days, by the closer approximation of the shoe to the hoof, that space became less and less, and, before it was necessary to remove it, the hoof bore on it as in the ordinary shoe.

But the bar-shoe, or used without the bar, or the frog bar-shoe, clearly and distinctly upsets the *inferred principle*, that crust should bear on the shoe, and sole should not. Let us therefore hear no more of such nonsense from any one professing to have the least practical knowledge of shoeing horses. There is no principle that can be uniformly practised without injury. The predisposing and exciting causes of injury of the foot are not acting upon all horses.

I have got rid of all technicalities, to enable us to come to some conclusion as to what really are the *principles* of shoeing horses. I have shewn clearly enough, from general practice, that the crust only is allowed, or part of the sole also, at the toe, to bear on the shoe, till it can bear no longer at the heels: the weight is then thrown on the frog, if in a sound state to bear on the shoe, until you can get the heels in condition to bear on the shoe again. If we are to infer principles from all this, what is the result?—That that depression of the sole, bars, crust at the heels, and frog should be allowed in the sound state of hoof that is used for its relief when diseased. I am aware that the subject is full of difficulty; it all hinges upon practical utility, i. e. whether the ordinary shoes can be superseded by those upon principle at the same price. Independently of this, it is easily accomplished, as I shall hereafter shew, but not upon the theory of *expansion*, which is not the principle of action in the hoof, but that of the spring.

“It would be a very easy matter to give instances of the advantage derived from springs, by calculating assumed cases; but they seem to be quite unnecessary, since the general principle of changing percussion into increase of pressure, must, by its very annunciation, give evidence of its immense importance.”—*D. Gilbert, Esq. M.P. on the Construction of Mail Coaches.*

“So great is the advantage of springs, that they almost annihilate the resistance which that part of the load which rests on them would encounter without them, upon stony roads or rough pavement. From the whole of these experiments, it appears that the advantage of springs increases with the increased velocity of carriages.”—*R. L. Edgeworth, Esq. F.R.S. M.R.I.A. Essay on the Construction of Roads and Carriages. 2d edit. p. 118.*

*Springs.*—“They convert all percussion into mere increase of pressure; that is, the collision of two hard bodies is changed, by the interposition of one that is elastic, into a mere accession of

weight. Thus the carriage is preserved from injury, and the materials of the road are not broken ; and in surmounting obstacles, instead of the whole carriage with its load being lifted over them, the springs allow the wheels to rise, while the weights suspended upon them are scarcely moved from their horizontal level : so that the whole of the weight could be supported on the springs, and all the other parts supposed devoid of inertia, while the springs themselves are very long and extremely flexible. This consequence would clearly follow, however much it may wear the appearance of a paradox, that such a carriage may be drawn over a road abounding in small obstacles, without agitation, and without any material addition being made to the moving power or draught.”—*Gilbert*.

“ A carriage without springs, moving over a rough road, has to be lifted over obstacles, or out of depressions, and all the power expended in overcoming inertia is pure loss : but the force exerted in elevating the weight is in a great measure by the preceding or subsequent descent. Now, under the supposition in my paragraph, *inertia* would be destroyed ; and it already is so by springs now at present used, and by the smooth roads.”—*Gilbert*.

It would be useless to multiply quotations on the principle of springs. The principle of springs is acknowledged and taught in our veterinary school as the principle of action of the hoof and part within it. The seceders go upon a supposed expansion horizontally : they have failed, as others before them, in not being able to bring the modification of expansion into general use. Springs, too, have failed ; and for the same reason,—their application to prevent contraction. For springs to be brought into general use instead of the ordinary shoes, they must have the ordinary shoes for their basis. It must produce as much profit to the *trade* ; not forgetting that intellect in its march has, as yet, forgotten to go the rounds of the *veterinary forges*, the new name for the blacksmith’s shop, in *contradistinction*, I suppose, to that of the whitesmith.

[To be continued.]

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## INFLAMMATION, AND DECOMPOSITION OF THE GLUTÆI MUSCLES.

*By Mr. J. KENT, of Bristol.*

A MARE about twelve years old was ridden by Mr. Quick, a traveller for the house of Messrs. Kent, brush-makers, near Falcon Square, London. She was very inordinately fat, and from

the statement of Mr. Q. always had been so. On the road, the pace of driving was from six to seven miles an hour, and the distance in the day from fifteen to twenty miles, with considerable intervals of rest; and she was always full fed, and had invariable good health. On Monday last she left Bath for Bristol, in good health and spirits; but when about five miles on the road, at her usual speed, and on very gently declining ground, she was suddenly taken with a staggering gait, especially of the hind legs, hard breathing, and profuse perspiration. She was immediately liberated from the carriage, and with difficulty got into a stable close at hand, where she instantly fell down. In the state of fright which this produced, she was bled pretty largely, and, from a supposition that she was attacked with gripes, a large dose of gin and pepper was administered immediately, and a farrier in the neighbourhood sent for, who on his arrival confidently affirmed that it was an injury of the spine, in his language "a rigg in the back;" and when, after repeated trials to raise her on her legs, it was found that she could not stand, and that when lying down she did not move her hind legs, although with the fore ones she attempted to rise, he expressed his opinion that her back was broken. On the following day I was called in, and positively denied that the spine was injured, or that the paralysis of the hind extremities was at all connected with a spinal affection. I came to that conclusion more positively, from seeing that, when lifted on her legs, which was done in my presence by twelve men, she could for a moment support her own weight, and that when the legs gave way, it was by the fetlocks knuckling forwards, and that the muscles of progression were particularly affected. Under these circumstances, I advised a trial of medicine until her bowels were freely opened: this was effected by aloes, of which, by repeated doses, she took twenty-two drachms; and within two hours after the time that purging commenced, she rose on her legs without assistance, but again fell as before. The pulse and appetite continued unaffected; but on Friday, seeing no probability of recovery, she was killed in my presence. On taking off the hind extremities, the glutæus muscle was observed by all present to be extremely pale, and softened very much: the bystanders said it was rotten. It was, in fact, in a state almost of decomposition. The same appearance was found in each extremity; its colour was drab, with a pinkish tinge. The texture of the liver was in a diseased state, to such an extent that, on being taken hold of, it tore through by its own weight: all other parts were in a healthy state. I omitted to observe, that the surrounding muscles were of the usual colour, except that there was a patchy or variegated appear-

ance in the muscles lying immediately contiguous, especially at the end or parts nearest to the insertion; but the other end or origin of the muscle was not equally affected.

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## THE EFFECT OF TARTARIZED ANTIMONY AS A VESICATORY.

*By Mr. GLOAG, 10th Hussars.*

ARE you aware of the effects of tartarized antimony on the horse's skin? In the College, I believe, that neither externally nor internally is it supposed to have any power. In affection of the skin, as mange, &c. tartarized antimony, prepared with lard, and well rubbed in and repeated during the day, has certainly a dreadful effect: no caustic can be worse. Tartarized antimony, prepared with lard, and well rubbed on a healthy surface, may not act the *first day*, but if repeated on the second, vesicles rise immediately, and ulcers *may* form from those vesicles: it seems always to attack the true skin. The effect seems to depend on the second rubbing, from the neglect of which, no doubt, the experiment has failed. As an assistant in the formation of a blister, I think it very useful, in the proportion of one part of the tartarized antimony to three parts of the fly.

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## ENORMOUS ENLARGEMENT OF THE LIVER AND SPLEEN IN A MARE.

*By Mr. J. TAIT, of Portsoy.*

I beg to send you a case from my friend, Mr. Smith Huntley, which I hope you will find worth insertion, as the spleen and pancreas were enlarged to an enormous extent.

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IN the month of February last, I was called to a mare, the property of Mr. James Christy, surgeon, in this town, which had been unwell for some time previous. Being from home at the time, the blacksmith had bled her and given her a "*drink*." On my arrival I found her dead.

*Post-mortem examination.*—On opening the abdomen, the bowels were highly inflamed; and on examining the spleen, I found it considerably enlarged, weighing upwards of fifty pounds, and in a complete state of scirrhus. On exploring

the abdomen farther, I found the pancreas in a similar state, and weighing more than thirty pounds. A small portion of the right lobe of the liver was affected in the same way.

*Remarks.*—About six weeks previously, this mare was in high condition and spirits, when she suddenly began to fall off in condition; but as she was still feeding well and doing her ordinary work, although not with any comfort, and Mr. Christy not having another to relieve her at the time, nothing was done for her, as his intention was to lay her aside, and put her under medical treatment; but unfortunately he lamed her, and, a short time after being put into the stable, she took ill as stated, and died.

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### A CASE OF STAGGERS.

*By Mr. E. C. BULL, Huntingdon.*

I HAVE ventured to select a case which fell under my observation in the month of March :—A three-year-old colt was labouring under staggers. The symptoms were, pulse unaltered—extremities cold—dulness of countenance—evident coma, the head in a declining position, and generally supported by the manger—when roused, the countenance assumed a wild and frantic appearance, and ran headlong forwards, and nearly came to the ground. At this time of alarm the breathing was much accelerated. The colt soon returned to his comatose or sleepy state, and there was total loss of appetite, with obstinate constipation of the bowels. He was perceived, when at plough on the day before, to break out in a profuse sweat, and appeared very dull afterwards; so he continued until the following day, when I first saw him. There was not any of that yellowness of the nose, or eyes, or mouth, or rectum which several authors have described as peculiar to stomach staggers.

I immediately considered the brain to be the seat of disease, as it was impossible for the stomach to have been distended after the horse had been at work four or five hours apparently in perfect health. I bled to the amount of six quarts, administered a strong purgative drink, and ordered two drachms of emetic tartar to be given every fourth hour. I also blistered the back part of the head and the neck extensively, and inserted a seton on each side of the neck, and ordered cloths dipped in cold water to be laid on the forehead, and nothing but bran mash and gruel to be given as food.

*7th.*—Something better—not so dull—walks a little about the stable—rather inclined to feed—the medicine operating

briskly. I gave a ball composed of half an ounce of nitre, one drachm of emetic tartar, and twenty grs. pulv. opii, and ordered it to be repeated at night.

8th.—Much better—bowels regular—appetite increasing. The patient is cheerful, but very weak. Give nitre one-third of an ounce, emetic tartar one drachm, gentian two drachms, with a little bran and oats twice a day.

9th.—The ball, with a little ginger, was repeated, and ordered to be continued daily for two or three days, with no increased allowance of corn. A few day afterwards I saw the owner, who told me that the horse was perfectly well.

## CONSULTATION RESPECTING SHEEP.

Dear Sir,

A FRIEND of mine, a very extensive farmer and grazier, residing on the banks of the Ouse, a low and marshy district, has had the misfortune to lose many of his sheep for some years past, in the spring and autumn, from some fatal disease. By examining two or three after death, I found it to be Pleuritis. There was nearly a quarter of an inch thickness of coagulable lymph on the whole surface of the pleura, and between its layers more or less serous fluid. The substance of the lungs was free from disease, as were all the other viscera.

This disease has been confined to the well-bred sheep, and Mr. ——— never saw it in his coarser skinned sheep: so fatal, however, has it been in the pure Leicester, that he cannot any longer breed them *pure*; he now mixes them with Half-Lincoln. These do not escape; within the past week many have died. Mr. ——— has observed, that the malady has been more prevalent when the sheep have been placed upon rich food, such as cabbage and turnips: it is seldom seen when they are kept on grass or dry food. The treatment that has been adopted from time to time has been attended with no good effect; in fact, it has been directed by no very defined indication, except that of bleeding the whole flock when any case has been suspected; and, when the animal is actually seized, bleeding again. Only one sheep ever recovered, and that was kept in a constant state of faintness for two or three days by repeated bleedings.

We feel very anxious that a more effectual mode of treatment should be adopted, for many of the sheep are of the greatest value. I occasionally had the pleasure of hearing your lectures at the University, and therefore feel desirous of having your

opinion, especially as I find from my friend Mr. ———, of this town, that you are about to publish on the diseases of sheep. He saw two or three of the sheep this morning, and can therefore better describe to you the symptoms.

*Symptoms as described by Mr. ———.*

Pulse very quick and hard; breathing difficult; countenance dull; the head in a declining position, with the nose forced against the ground; bowels more than usually constipated; the membranes of the eyes and nose red; low and short cough; almost always lying down; when moved, indicating much pain, and making a grunting noise. In one of the sheep there was a discharge streaked with blood from the nose.

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EXTRACT FROM REPLY.

My dear Sir,

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*	*	*	*	*	*

Do you not see at a glance the whole history and mystery of the matter? Your friend is an ardent admirer of the Leicester breed of sheep: I can forgive him that. He has fully developed that propensity to accumulate flesh and fat which is the distinguishing, the invaluable property of that breed: but he is not satisfied with developing this so far as it is necessary for *any useful purpose*; he must outdo all his neighbours. He must urge his flock on to that condition in which, indeed, they look beautiful to the eye, and add, I have always maintained undeservedly add, to the reputation of the breeder; but in which he forgets, or is not aware that he places them in a state of dangerous plethora, where there is but a step between them and death. There needs but a little increase of nutritious food—there needs perhaps but the addition of a quarter of a mile's walk—there needs but some unknown atmospheric agency to derange the labouring circulation, and the weak point is found out in a moment. The blood is determined to or congested in the head, or the lungs, or the pleura, or the peritoneum, and the animal dies without the possibility of reprieve.

“No,” says your friend, “I do not do this either.” Yes, he does, and too often; and then he attributes it to the very convenient term *Inflammation*. There is scarcely a year that at the Smithfield prize-show I do not hear a dozen farmers, at least, complain that they have not been able to compete in this sweepstake, or for that prize, because they have lost many sheep from

*Inflammation.* "Pshaw!" I always interfere when I have any previous acquaintance with them, "you murdered them, and I do not pity you a bit; you half deserve hanging yourselves."—This is a bitter pill, and they do not like the doctor for administering it.

"No, no," says your friend, "I do not do this; Mr. Y. is quite mistaken;" and "so say all of them."

Then I will tell him what he does; he diligently cultivates a breed of sheep that has a faculty almost beyond conception of turning nutritious food into blood. Put a Leicester sheep on good or too good pasture, at least as compared with that from which he is taken, and I dare not say in what small a space of time, and before his appearance of condition is much altered, the quantity of blood which flowed through his veins is in a manner doubled. What is the natural, the frequent, the almost necessary consequence of this? He thinks that it is the fat sheep alone that can die plethoric; but I will tell him that there is equal, perhaps greater, danger with regard to these fast blood-making sheep, if the pasture is incautiously and too rapidly changed, when they are in common store condition, than when they are somewhat oppressed with fatness. In the latter case, they die of apoplexy; in the former, of inflammation of every kind.

Therefore, as to your friend, I have scarcely a word to say to him about medicines. If he has been in a little too great a hurry, the lancet and the Epsom salts are very good things, and I can add nothing to them. Let him go back again to his half-breds; let him go back again, if he pleases, to his pure Leicesters; and if he, although perhaps an experienced breeder, will take the advice of a poor veterinary surgeon who has hitherto been supposed to know nothing about the matter—(what do not our established veterinary instructors deserve when this is the case? and shame on the agricultural interest generally that suffers such a state of things to be)—I will promise him that his losses, if not quite arrested, shall be very much limited.

Let him abate a little of his emulation on points of no practical importance. Let him give greater scope to that which is connected with his own and with the national prosperity. Let him diligently cultivate that breed of sheep which *on his land* he can most quickly and most cheaply bring into marketable condition. When he changes his pasture from a tolerable to a forcing one, let him be more cautious than farmers generally are—let them first go on their *cabbages* or their *turnips* for not more than two or three hours a-day—let the time be very gradually extended: and, when the day is spent on them, let it be a short one—the opening of the fold a little later, and the return to it a little sooner than usual.

If, still, he is making more haste than good speed, the lancet and the *Epsom* salts are, I repeat, very good things, and so is old John Lawrence's digesting ground—a pasture tolerably bare, and where the sheep must work somewhat hard for a belly-full. He may depend upon it, that food, *too much and too good food*, lies at the bottom of the whole. As to the pleurisy which you so accurately described, there may be something in your friend's "low and marshy ground" which predisposes to pulmonary complaints, oftener however to hepatic ones. Where cough is perceived, the lancet may be had recourse to if that cough is violent, and Epsom salts (the dose two ounces) and followed by doses of pulv. digital. ʒss, potassæ nit. ʒi, flor. sulph. ʒj mixed up with a little gruel, and given daily, or twice in the day, in bad cases; but I have far more faith in the preventive which I have pointed out.

And now, my dear Sir, I have seemed to neglect you, and perhaps I have added to the offence by lecturing your friend at some length. I cannot help it. I have the pleasure of recollecting you at the University; and I trust that you will believe me to be

Very faithfully your's,

W. YOUATT.

## POISONOUS EFFECTS OF THE BERRIES AND LEAVES OF THE YEW (*TAXUS BACCATA*).

*By* SAMUEL HURT, Esq., *Mansfield.*

RAY says, in his "Synopsis Stirpium," "Doody, ut ipse refert, baccas absque notâ comedit." Withering says, "the berries are sweet and viscid; children often eat them in large quantities without inconvenience. Swine and fieldfares are fond of them."

Sir J. E. Smith, in his "English Flora," says, "the berries have a sweet mawkish taste, and may be eaten without danger." In "Beck's Elements of Medical Jurisprudence" two fatal cases are quoted from Metzger, in consequence of eating the leaves and berries. Professor Lindley says, in his "Introduction to the Natural System of Botany," 1830, p. 250, "the succulent covering of the yew fruit (seed) is fetid, and said to be deleterious by Decandolle: we all know that its seeds, if eaten, are highly dangerous." It seems to be universally allowed that the leaves are exceedingly poisonous to cattle, as well as to the human species; and they appear to produce their effects in a very sudden manner. Dr. Percivall relates that a table-spoonful of the fresh leaves were administered to three children of five, four, and three years old, severally, near Manchester, for worms. Yawning and list-

lessness soon succeeded; the oldest vomited a little, and complained of pain in the abdomen, but the others expressed no signs of pain. They all died within a few hours of each other.

Mr. Tatem, in Loudon's Magazine of Natural History, vol. viii, p. 91, mentions, that two horses which had been employed in carrying fodder were put under a large yew-tree, which they cropped with eagerness. No unfavourable circumstance appeared for three hours; when, having staggered a few paces, they both dropped, and before the harness could be taken off, they were dead. Their stomachs were contracted and inflamed (yew-leaves and branches were found in the stomach and intestines) in that peculiar manner which is observed to arise from the presence of poisons. Loudon, in his "Encyclopædia of Plants," says, "the twigs and leaves of yew eaten in very small quantity are certain death to horses and cows, but deer, it is said, will crop these trees with impunity; and sheep and goats are said by Linnæus to crop them: Turkeys, peacocks, and other poultry and birds, eat both the leaves and fruit. A few of the berries are not deleterious to the human species, but the leaves are fatal." Mr. Tatem mentions in Loudon's Magazine, before quoted, that some young Guinea fowls were put under a coop under the shade of a yew-tree, the branches of which were beyond their reach; but having picked up some fallen leaves, they proved fatal to the birds, one of them dying in half an hour afterwards." Mr. Tatem further observes, "we here see the deadly effects of the yew-tree, both in a green and flourishing state, and when its leaves are fallen and withered, and that the animal and bird species fall equally victims to its poison."

I have tasted the berries, and find the juice to be, as Smith describes it, sweet and mawkish; but the berry or seed is very bitter and disagreeable; and I think that the poison will be found to reside in the seed only, as I have been informed by many individuals that, when children, they had eaten the berry, but had rejected the seeds, and perceived no bad effects. One old man said that he used to eat the whole without any bad effect resulting. I think it very possible that the seeds may have been swallowed in many instances whole, and have passed through the intestinal canal unaltered; but when the husk of the seed is broken and exposed to the gastric juice, it is then liable to produce fatal effects, which were as sudden in their operation on this child as were the effects of the leaves on the horses beforementioned, and the effect upon the stomach was nearly the same.

*THE VETERINARIAN, APRIL 1, 1837.*


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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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THE Veterinary Medical Association has now been in full working more than four months. It is natural for those who were most concerned in its establishment to pause, now and then, and contemplate the result of their labour. No fear or misgivings, but, certainly, some reminiscences of a former and excellent society, and of the ruin to which it was hastening, caused some of us occasionally to pause, and to wish that imperative duty had not imposed upon us the task in which we were engaged. When, however, it daily became more and more manifest, that good, and to an extent that not one of us dared to anticipate, was rapidly growing out of evil, and that an Association was forming and spreading on every side, worthy of the profession to which we belonged, and promising to secure the honour and rapidly effect the improvement of our art, then we indulged ourselves in heartfelt exultation, and began to receive our best and dearest reward.

The meetings of the new society have now uninterruptedly continued since the middle of November; and half of the first session has past. What has been the result? On no one evening has there been the slightest manifestation of ill-feeling; the President's hammer has not once been heard, nor has the theatre been disgraced by one cry to "order." This is highly gratifying, and it is very honourable to an assembly composed chiefly of young men.

In the first two months several of the most talented of the metropolitan veterinarians were present; and the records of the Association will sufficiently testify the readiness with which they mingled in the debate, and the important information which was elicited from them. It will be sufficient to refer to the discussions on Influenza. So highly were they estimated by the agricultural and sporting public, that they were transcribed, nearly

verbatim, into almost every periodical connected with the turf, the field, or the plough. If these gentlemen have not been so frequent in their attendance of late—we speak advisedly—it is because the overwhelming avocations of a metropolitan spring have rendered so frequent attendance impossible. At the beginning of another session, each will be found again in his place among us, and we shall see some or all of them occasionally ere that time.

Among the after-debates the author of each of the essays acquitted himself well; and if one is selected as a sample of the rest, it will naturally be *the first students' night*. The majority of the readers of this periodical well know what is meant by that term. Ere a student can obtain a certificate of fellowship from the Association, he must have brought in, and well defended against all opponents, a thesis on some veterinary subject of his own selection. This was one of the most useful points in the old society; but the students' night was always a dangerous, and sometimes an unpleasant one. The defender was compelled to answer all questions to the best of his power; and too many of those questions were occasionally put, not to elicit truth, but to annoy and to puzzle the poor fellow who was tied to the stake, and some explosion of bad feeling would occasionally take place. The essay, too, was not always of a practical nature—it could not be expected to be so, coming from a young man—and, on a few rare occasions, the theory was somewhat too crude, and the piracy too barefaced.

Our readers will find an account of this debate in the present number, and the last page of the preceding one. We trust that the essay, and the discussion of it, will—what they already promise to be doing—give a tone and a character to every future meeting of this kind. Mr. Daws had been many years with Mr. Mavor, first as an apprentice, and afterwards as an assistant. His connexion with such a gentleman gave him an opportunity of seeing a great number of cases, and the most scientific and the best treatment of them. The essay of Mr. Daws sufficiently shews that these advantages had not been underrated, and had been diligently improved. He chose “Pneumonia” as the subject of his theme, and the account which he gives of the varieties,

and symptoms, and terminations, and post-mortem appearances of this disease, are highly creditable to him.

When the debate ensued—if our readers will take the trouble to examine the history which is given by him, and his opponents, of the reasons why young horses are more subject to it than older ones; why it is of more frequent occurrence in large towns than in country practice; the kind of work, and the form of the horse which most predispose to it; the constitutional impression which it makes on the horse, and its connexion with his future soundness; more particularly, if they will con over the beautiful account which is given of the pulse of the horse labouring under pneumonia; the graphically accurate speaking distinction that is drawn between this disease and another with which it is so often confounded,—catarrhal fever; if they will duly estimate the cautions against too great reliance on the appearance of the blood, and the delineation of those circumstances which may be depended on as safe and sure guides; the explanation of the rigor of pneumonia; the debate as to the power of digitalis in this disease, and the caution with which it should be administered; the true nature and indication of the intermittent pulse; and the question as to the power of the tartarized antimony—if they will pay even a slight and superficial attention to these things, they will be convinced that the debate was worthy of the Association, and cannot fail of being useful to those who were present at it, and to the profession at large. Putting entirely out of the question the little, the very little share which the writer of this article had in the debate of the second evening, he must say that, of discussions like these, he, and those who have the interest of the Association and the profession at heart, are truly proud. They afford us a presage of what these meetings and the profession at large will hereafter become. “*L'esprit est une plante dont on ne sauroit arrêter le végétation, sans le faire périr.*”

Perhaps the perfection of such a meeting—“*aut nunquam tentes, aut perfice*”—may be secured and hastened, if its members will lend themselves zealously to such a cause. The practitioners of the metropolis!—could they not a *little* oftener come among us? They would be welcomed to their hearts' content. A few of

those who do come, could they not kindly enter the lists somewhat sooner, and delight their younger brethren by breaking a harmless lance with them? They shall still be permitted to bear the honours of the later portion of the day; but when they content themselves with being mere spectators until the sun is nearly going down, there is not time for them to delight us with the feats of arms of which they are capable.

Our younger friends—they have not once interrupted the proceedings of the meeting by improper or indecorous behaviour—they have sometimes added to the effect of the exhibition by the judicious applause which they have bestowed on the combatants. Was this all that they could have done? might they not have devoted one half hour to the previous consideration of the subject that was to be discussed? Could they not have questioned themselves on what particular points they felt hesitation and doubt, or where they were conscious of almost total ignorance? Were they afraid to ask for information, or occasionally to add their mite to the general stock of knowledge? The defender is bound to answer them to the best of his power; and in no instance have they received a reluctant or cold reply from an elder brother student, or from a practitioner of the longest standing.

Our country members! are their consciences quite at ease? Have they altogether forgotten the law which states that “any communication that they may be pleased to make in or connected with veterinary science will be gladly received by the Association, which will, in return, debate on any disputed point on which they may wish to have its opinion, and which opinion shall be transmitted to them by the secretary?” Circumstances will occur in the practice of every man in which a right of appeal like this cannot fail of being highly desirable and advantageous; and these intercommunications, while they will give variety to the proceedings of the Association, will necessarily unite together the members of the profession for every pleasing honourable purpose—for every purpose, in fact, connected with our individual welfare, and the improvement of our art.

One of our country members, Mr. Mayer, jun., of Newcastle-

under-Line, and who travels to the metropolis that he may be present at the last meeting of the London Veterinary Medical Society, has promised to prolong his stay amongst us, and to produce and to defend, on Tuesday the 4th of April, an essay on a very important subject, "The comparative Advantage of Setoning and Firing." Connected with our practice, whether in town or country, there can scarcely be a more interesting inquiry; and we do trust that, for his own sake as well as in compliment to the zeal of our Staffordshire friend, every member of the Association in the metropolis or its vicinity will endeavour to be found at his post on that night.

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It is probably known to many of our readers that Professor Coleman has lately been seriously indisposed. Acute pneumonia supervened on a severe attack of the gout, and, for some days, the result was doubtful. They will be gratified to hear that he is now considerably better. His medical friends, however, have urged him not to attempt to lecture for two or three months to come; but, as soon as the weather will permit, to journey towards the coast. We understand that arrangements have been made for the Assistant Professor to occupy, during that time, the chair of the principal; and that, probably, the aid of Mr. Spooner will be given in the anatomical department. Some plan of this kind should have been long ago adopted. All his friends and pupils have deeply lamented the frequent illness of the Professor; but the lectures and examinations should not have been so often and so long suspended. The first is a serious and irreparable loss—the second has frequently been productive of very material inconvenience. Both the Professors will discharge an imperative duty by securing, in future, the just expectations and claims of the students from the possibility of injury. Y.

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## PRESENTATION OF PLATE TO MR. SPOONER.

At a general meeting of the pupils of Mr. Spooner, Lecturer on Veterinary Anatomy, &c., held in the theatre of that gentleman, Nov. 25th, 1836, it was unanimously resolved, "That

it is extremely desirable that a mark of respect should be paid to C. Spooner, Esq., evincing our high estimation of him as a teacher, and as a distinguished member of the veterinary profession." In furtherance of the object, a committee was formed, consisting of twelve veterinary surgeons (late pupils), and the same number of his present class, with Captain Randall as treasurer, and Mr. W. S. Wallis as secretary. A subscription was then commenced, and continued open until February 20th, 1837.

A piece of plate was then purchased by a sub-committee, and on the 27th Mr. Brough was solicited, in the name and on behalf of the committee and his fellow-students, to present this token of their esteem, which he did in nearly the following terms :—

He could have wished, he said, that this pleasing task had devolved upon some one more able than himself; and he confessed he felt his inadequacy to do justice to the feelings of those he had the honour to represent; but he hoped they would excuse him if he did not convey to Mr. Spooner, in language sufficiently impressive, the warm and genuine sentiments of their minds. It was not that he lacked the spirit, but the ability to express in commensurate terms the emotions of his own mind, and in which he well knew every gentleman around him participated. He had witnessed with mingled satisfaction and improvement, during his attendance on the lectures of Mr. Spooner, the able and energetic manner in which that gentleman invariably delivered his instructions, and the never-failing impressions they made on the mind. As a proof, if proof were wanting, that there was no discrepancy of opinion in the minds of those constituting the present class, as to the expediency of presenting this testimonial of their esteem, he would only say, that the list of voluntary and eager subscribers was, in point of fact, a list of the class; and comprising not only the junior students, who, although only lately introduced to their preceptor, had seen enough of him to appreciate his talent and his kindness, but those who had had the happiness of knowing him before the present session, and in whose judgment of him there could be no mistake.

Mr. Brough having presented the plate to Mr. Spooner, he arose, and thus returned his thanks :—

Gentlemen,—I have been in the daily habit of addressing a class in this theatre for the last five years. You will therefore, perhaps, infer that I begin to feel myself at home among you; but I trust that I am, at the same time, duly impressed with the great responsibility which is attached to the situation which I have the honour to fill among you, as a teacher of veterinary anatomy

and physiology. Believe me, gentlemen, I am fully conscious of my incapability to do justice to those important branches of science to which it is my duty to direct your attention; yet such has been the marked respect, the undivided attention, that I have always experienced from my pupils, and such their strenuous exertions to improve, that I am now enabled to come before you with a heartfelt pleasure, unalloyed by that excitement and perturbation which so generally attend the early career of a lecturer. You have, however, to-day placed me in a novel situation. You are the donors, I am the acceptor: and when I look to the intrinsic value of the beautiful present which you have thus kindly placed before me, and reflect that in such lasting material is centered the confidence and esteem of my pupils, my heart overflows with feelings of gratitude, and I feel myself totally incompetent to express the genuine sentiments of my soul.

Gentlemen, I proudly accept this valued gift; and be assured that it, together with the kind sentiments with which it is associated, will make an indelible impression on my mind. It will not buoy me up with vain ideas or egotistic pride; but will act as an incitement to new and more strenuous exertions in the cause which I believe to be uppermost in all our hearts, viz. the honour, respectability, and welfare of the veterinary profession.

To you, Sir (turning to Mr. Brough), for the very able manner in which you have fulfilled the duty entrusted to you by those with whom you have acted, and for the very flattering eulogium which you have been pleased to pass upon me, I feel that I am called upon to tender my best thanks. I am convinced I do not merit the compliments which you have been pleased to pay me; but must place much to the score of that friendship which during your pupillage has ever existed between us. Gentlemen, I beg again from my heart to thank you.

### Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

*The Human Brain, its Configuration, Structure, Development, and Physiology, illustrated by References to the Nervous System in the Lower Orders of Animals.* By SAMUEL SOLLY, Lecturer on Anatomy and Physiology in St. Thomas's Hospital, &c. &c. With twelve plates.

MR. SOLLY is one of those who have marked and accompanied the onward progress of science as it regards the structure

and physiology of the nervous system, and more especially, and wisely too, as it regards the connexion of this system with health and disease. In this work he presents his class, and the medical public generally, with the result of his observations on one portion of the system,—the brain, and to that he strictly confines himself. His description of that organ and its functions is so simple, and luminous, and satisfactory, that we lament that he had not extended his views to the whole circle of nervous power and influence; consoling ourselves, however, with the persuasion that the favourable regard which this fasciculus will receive, will stimulate him to complete the all-important subject on which he has entered.

But what has the veterinary student to do with the human brain? Certainly nothing at all in the estimation of him who has absurdly confined his inquiries to one animal only, and who dares not to look beyond that one, lest his strange assumptions and wild theories should be scattered before the wind; but much with the student who is preparing to practise on the diseases of animals belonging to various classes, and who therefore feels that he must obtain a competent idea of the manner in which the important organs of each are adapted to the destiny they are to fulfil, and who, in the cerebral structure of the chief of this inferior world, would expect to find the noblest work of the Creator.

But Mr. Solly connects the inquiries of the two classes of students in a way that is interesting and flattering to us. "The study of the human brain could not be introduced to the pupil in a more philosophical manner, or with a prospect of greater advantage to him, than by taking an extended but general view of the nervous system of the lower orders of animals. "I use comparative anatomy," says he, "as an ally in my attempt to simplify the study of the human brain, without regarding it, as it really is, an object of extreme interest, and capable of rendering essential service to the student in medicine." If, then, the medical man, who can have but one patient—his fellow biped—seeks and values these auxiliary studies, surely they must be more important to us, whose practice is, or ought to be, a course of comparative physiology and pathology.

Our author supposes the brain to consist of an accumulation of small swellings or nodules—of neurine—*ganglia*; of cords or *commissures* which connect these *ganglia* together; and of other cords—*nerves*—by which these *ganglia* are connected with the tissues of the different organs. The peculiar power of the nervous system resides in the cineritious or ganglial portion of the brain, and the office of the medullary portion is simply that of

a conductor. First, a conductor of the stimulus which arouses the cineritious neurine into action—the *nerves of sensation*. Secondly, a conductor of the will, which originates in the cineritious or pulpy neurine—*nerves of motion or volition*. Thirdly, an agent for combining the various impressions conveyed to the cineritious neurine in the brain, and thus constituting it one compound ganglion, a centre of nervous power—the *commissures*. The cineritious portion of the nervous system standing in the same relation to the rest of that system, which the secreting portion of a gland does to the rest of that organ. The cineritious matter is endowed with the faculty of generating or producing power, and the medullary is the instrument of conveying it.

What a simple yet comprehensive view does this afford of the physiology of the brain!—the organ which brings us into relation with the external world—which informs us of the existence of surrounding objects, and to which is to be traced the existence and the activity of our intellectual faculties.

This is one nervous system: but there is another indirectly connected with the brain and spinal cord, the prolongation of the brain, and acting in a thousand ways independent of both—that which has reference to the maintenance and the preservation of our existence—our nutrition and our growth—our health and our disease—and, finally, the reproduction of the species. This is found in the neurine of the medulla oblongata, and of a thousand ganglia scattered over every part of the frame. There is a division here: the nerves from the medulla oblongata preside over the motions and the sensations of organic life; those from the ganglia likewise are connected with organic feeling, but are principally employed in the processes of secretion and of nutrition, of growth and of decay.

What simpler, what more satisfactory view can be given of two distinct yet combined nervous systems! and what a revolution must take place in our views of disease, and our language respecting it, when these—no longer theories—facts, established by repeated and unequivocal experiments, are received as the basis of our medical studies! They have been so received by the students of human medicine, and no great length of time will elapse ere they will be taught in our schools.

Mr. Solly soon returns to the especial subject of his work, the brain, and he takes a rapid but luminous view of the structure and physiology of it in the inferior animals, and its gradual development, until we arrive at the intellectual organ which occupies the human cranium—from the scattered ganglia of those species who answer no other end in creation than that of elaborating a nutrient material for others that hold a higher rank in

the animal kingdom, to the conglomerate ganglion of him who preys upon and usurps dominion over all. The description of the nervous system in the crustacea—the mollusca—the nautilus—fishes—amphibia—and birds, is given at considerable length, and illustrated by some beautiful and accurate engravings. His account of the brain of the sheep we transcribe, premising, however, to our readers, that although it is accurate and elaborate, the author professes to do little more than point out the approach to the human brain in this larger animal, compared with that of the rabbit, which he had just described.

“The upper surface of the cerebral mass of the sheep presents only two divisions;—the cerebrum, consisting of two hemispheres as usual, and the cerebellum. The olfactory ganglia can no longer be seen in front of the hemispheres, as in the rabbit, these last having here increased in size so much, as completely to cover and conceal them. The hemispheres are not only of larger relative dimensions, but their shape is altered: they have lost the pyriform character they presented in the rodent animal, and have assumed more of the oval form which they possessed in the human being. Their surface, instead of being smooth, is convoluted, looking exactly as if it were formed by the folding up of a soft but tenacious substance. The cerebellum is not much changed in appearance; it is only somewhat larger in proportion to the cerebrum.

“The great transverse commissure has increased in accordance with the greater development of the hemispheres; and when we divide it in the middle and turn either half back, in order to expose the optic tubercles, the thalami and corpora striata, we find the latter appearing as if they were placed within a circumscribed cavity, so much have the hemispheres increased in size in every direction. The space which is left between the corpora striata and thalami, and the under surface of the hemispheres, has actually been described in the human brain as if it were a cavity or chamber scooped out of the substance of the brain, under the name of *lateral ventricle*. The erroneous nature of this description and of the views which have led to it must be evident to every one who has followed the gradual development of the hemispheres from before backwards. We find, in fact, that the spaces denominated lateral ventricles are the necessary effect of the drawing back, if I may so express it, of those extensive surfaces of neurine covering the crura cerebri or anterior productions of the medulla oblongata. By the addition of the anterior and posterior cerebral ganglia of the cord (the corpus striatum and thalamus), the structure comes to bear a considerable resemblance to a head of cauliflower, included within its capsule of leaves; or, as I have said elsewhere, to the nodulated head of a walking-stick, over and around which a piece of cloth has been tied, and then reflected forwards upon itself.

“The edge of the fornix or longitudinal commissure may be seen lying in the groove between the anterior and posterior cerebral ganglia; the posterior ganglion or thalamus being however so completely covered, that it cannot be seen until the commissure is completely divided and reflected backwards. If, after doing this, the hemispheres be turned forward, the cerebral ganglia on both sides will be exposed, with the pineal commissure and tubercula quadrigemina: crossing the fissure between the posterior cerebral ganglia (absurdly called the third ventricle), the commissura mollis or middle commissure will be brought into view.

“On the base or under surface of the brain we observe that the olfactory ganglia or tubercles are very highly developed; they are, in fact, nearly three times as large as those of the human subject, a size which appears to correspond with the complicated structure of the nose of this animal, and to be in proportion to their sense of smell. The olfactory commissures are short and thick, scarcely a line's breadth being left between the tubercle and the point where they are united to the under surface of the hemispheres. These commissures appear to extend backward some way further than the point where they are first attached to the surface of the cerebrum. The olfactory tubercles themselves are composed of medullary and cineritious neurine.

“The pons varolii, or tuber annulare of Willis, is small in the sheep compared with the same part in man: here it is not more than three lines in breadth. The corpora mamillaria are united so as to appear like a single body. The tuber cinereum is not particularly distinct. Through its centre we find a sort of funnel-shaped tube passing, called the *infundibulum*, which joins a rounded structure situate on the sphenoid bone, called the *pituitary gland*. The character or analogy of the last-mentioned parts is extremely obscure, and there is a mystery here which has not yet been unravelled. The medulla oblongata, like that of the rabbit, is very thick in comparison with the spinal cord.

“The origins of the nerves occur in the sheep precisely as in the human being, and need not, therefore, be dwelt upon in this place; although, in dissecting the brain of the sheep, reference may be very advantageously made to the base of the human brain for assistance in discriminating several of the particular pairs of nerves. In Plate V, a sketch of the under part of the brain of the horse has been introduced, merely for the purpose of shewing the amazing development of the olfactory ganglia in one of those animals in which the sense of smell attains a high degree of perfection; and also for the sake of demonstrating the impropriety of classifying analogous parts in the human being, under the head of nerves with bulbous extremities. A section of the olfactory ganglia in the sheep further illustrates the same anatomical truth, by exhibiting the arrangement of the pulpy and medullary neurine, fig. 2, same plate.”

We are quite assured that our readers will not be satisfied with this imperfect account of Mr. Solly's excellent work, but will give the volume a place next to that of Dr. Quain, as embodying the greater part of what it is necessary for them to know of the anatomy of the human being.

Y.

### CORRESPONDENTS.

Our legal friend is holyday-keeping. Ere the next number is published we will obtain the requisite information. We much regret the delay.

We must positively refuse to become a party in the disputes between students of other schools, or to presume to interfere when there are differences of opinion on theoretical or even practical points between the principal and a few of his class. The gentleman who has urged this upon us must be fully aware of the impropriety and discourtesy of such a proceeding. Thus far, however, we have no objection to state, that, in our firm belief, wood-evil and red-water are both diseases of the digestive system.

Will our Correspondents kindly favour us with their communications on or before the 15th day of the month?

# THE VETERINARIAN.

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## ANIMAL PATHOLOGY.

By Mr. YOUATT.

### LECTURE XI.

#### *The great Spinal Organic Nerve in the Abdomen.*

I HAVE little that is new to add to the account of the abdominal branches and ramifications of the great spinal organic nerve in the abdomen given in THE VETERINARIAN of 1834; and I will not annoy you with more repetition than I can possibly avoid.

*The approach of the Nerve to the Diaphragm.*—As the œsophagus approaches the diaphragm, the right nerve is attached to its under surface, and the left branch to the upper surface; and fibres of intercommunication multiply to an extraordinary degree, with the apparent intention that their influence and power should be perfectly blended. No ramifications have yet been discovered on the diaphragm, for that important muscle is abundantly supplied with influence peculiar to itself. The œsophagus passes obliquely through the grand scissure between the crura of the diaphragm, and these nerves accompany it, clinging to its external coat. Having entered the abdomen, the branches of intercommunication become more numerous, and a real plexus is formed about the base of the œsophagus: the two nerves, however, can be readily traced in their passage through the plexus, and, at length, altogether separate from each other, they take very different courses over the stomach, still united by numerous anastomoses.

I would beg leave to refer you to the 6th vol. of THE VETERINARIAN, p. 349, for an account of the anatomical distribution of these nerves: in that I have no alteration to make.

*The motor Function of the Gastric Nerves.*—With regard to the  
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motor function of this gastric nerve, there is now, to a certain extent, little or no dispute. The gastric juice is the solvent of the ingesta of the stomach; or the fluid by the powerful action of which they are converted into one homogeneous mass—chyme. By means of the muscular coat of the stomach, that viscus is kept in a continual state of agitation or motion; every part of the food is gradually propelled from the cardiac to the pyloric orifice of the stomach, and in the course of that journey is brought, and probably many times in its turn, to the surface, and exposed to the full influence of the solvent. The experiments of almost every physiologist differing, and often strangely differing, in many points unite here. These nerves having been divided, the formation of the chyme is not altogether arrested, but it is confined to the surface of the mass of food, or penetrates but a very little way into that mass; whereas, if they were left to exert their natural influence or power, every portion would be dissolved. If there were not direct experiments as to the actual motion of the stomach, the conclusion could scarcely be avoided, that in the one case every portion of the food was brought into contact with the gastric fluid; and that in the other portions only of an inert and motionless mass, on which the parietes of the stomach pressed, were dissolved. The digestion of the food is not suspended, but it is inconveniently and fatally delayed by the division of the nerves.

There is not only an oscillatory motion, by means of which the food is agitated, and parted, and successive portions brought into contact with this fluid; but there is a peristaltic one which causes the food to be gradually propelled or forced on from the cardiac to the pyloric orifice. An inspection of the circular as well as the longitudinal fibres of the muscles of the stomach will give a clear and satisfactory idea of this. The great spinal organic nerve being divided, both kinds of motion cease at once;—the superficial portion of the food alone is digested, and the whole mass remains in the stomach without the possibility of extrication.

*The Sensibility of the Stomach destroyed.*—These, however, are nerves of organic sensation as well as of motion; and it is easy to imagine what, in this respect, will be the consequence of their division. That organic sensibility by which the sphincters, whether cardiac or pyloric, are governed—that feeling of comfort or of annoyance—that consciousness of healthy or of deranged action or impression—as really existent as the common sensations of pleasure or pain—being suspended, the stomach, so far as feeling and motion are concerned, becomes inert or dead. The pylorus no longer responds to the stimulus of healthy chyle, and permits the escape of that portion of the food which is pre-

pared for the subsequent processes of digestion—the stomach being, previously to the operation, devoid of food, no longer gives warning of its state of *inanition*; the sensations of hunger and thirst are excited no more—nor does this viscus give notice of an unnatural state of *repletion*, but continues to receive the food until the gullet as well as the inferior viscus is distended almost to bursting. No longer does the stomach respond to the influence of nauseating substances, and reject them by the act of vomiting: all is still as death; except only that the secretion of the gastric juice, dependent on another system of nerves, and the partial chymification of the food, slowly proceed. There have been numerous experiments which irrefragably prove the facts which I am stating, and compel us to acknowledge, that in these nerves reside the whole power of gastric sensibility and motion.

*Experiments as to the Motions of the Stomach.*—When using the trocar in distention of the stomach of cattle or of sheep by gas, have you never felt the little instrument almost forced out of your hand by the strong peristaltic motion of the rumen? You have punctured the superior portion of the rumen; has not the direction in which that viscus worked been evidently forwards—from the puncture which you have made, onward toward the chest? The interior of the stomach of St. Martin having been exposed to view by an accidental perforation of it, the contents, and the disposal of those contents, and the manner of the working of that viscus, were rendered indisputably evident, and the vermicular or worm-like motions of the stomach could not be mistaken. These are unequivocal proofs both of the oscillatory and the peristaltic motion of the stomach.

The experiments of numerous physiologists prove that both these motions are suspended when the great spinal organic nerve is divided. As I have already stated, no food escapes from the stomach, and that portion alone of the ingesta is converted into chyme which is in contact with the gastric juice—the process of chymification is, therefore, not suspended but delayed. Dr. Beaumont put this to the test with St. Martin. He hung portions of meat in the stomach by a string so short as to prevent them from being fully subjected to the motions which are always going on during digestion. The action of the gastric juice was confined almost entirely to their surface, and a longer time was then required for their solution than when they were left at liberty.

*Experiments as to the Sensibility of the Stomach.*—I will relate to you two experiments by Brachet, which are perfectly decisive. He kept a dog without food twenty-four hours—he seemed to be devoured by hunger. He then divided the spinal organic nerves. The animal being set at liberty, ceased to search

for food, and immediately laid himself down. Brachet cut the food into small pieces and offered it to him, bit by bit; he took it with evident indifference, but he would not stir to search for it. The physiologist continued to present the food, and the dog ate it, until he could not swallow any more because the œsophagus itself was quite full.

He then took two guinea-pigs, and kept them fasting eighteen hours. They searched every where about for food, and made the place re-echo with their shrill cries. He divided the nerves concerning which we are speaking. He filled their little manger with crumb of bread—food which on the preceding day they had eaten greedily. They lay down, and took no account of it. He held it under their noses—they began to eat, but with indifference. He placed the food a little way from them—they would not budge an inch. He then held it to them in small morsels, and they ate until they were unable to dispose of a particle more, for the œsophagus was filled to the very top. They were hungry enough before the operation, but the feeling of hunger was quite gone afterwards; and they ate only because they were stimulated by the smell of the food held under their noses. That stimulus being continued, they gorged themselves to the very mouth. The sense both of hunger and of satiety was destroyed when these nerves were divided.

How many important consequences will follow if this function of the spinal organic nerve is admitted! With how many diseases and forms of disease are they connected! They are the source of the sensibility of the stomach, and how materially are a thousand accompanying symptoms of disease, and, in many cases, the very essence of certain diseases, connected with the state of this organ, and its irritability or obtuseness, or, in other words, with the agency of this portion of the nervous system? We are not prepared yet to enter on this wide and interesting field of inquiry; but we must not forget these and similar facts when we are treating of a variety of diseases.

These gastric nerves receive and transmit the impressions of medicines. If a narcotic is administered, its effect on the cerebral system is often felt in a moment, and always long ere it could have been digested and absorbed, and its influence conveyed through the medium of the circulation. It is transmitted to the medulla oblongata, and thence to the brain, in an almost inconceivably short period of time. This can be effected only through the medium of the spinal organic nerves. “I gave a certain portion of opium (says M. Brachet) to two dogs of the same age and strength, having previously divided these nerves in one of them. The dog that had not been operated upon was

presently a prey to the full action of the narcotic ; the other lay quietly, or only exhibited the disordered respiration consequent on the operation." He gave an equal dose of nux vomica to two dogs, on one of which he had practised the division of these nerves. The one presently died, the other for awhile experienced no bad effect from the drug, nor did he begin to suffer until the time that the poison, or the influence of the poison, might have reached the sensorium through the means of the circulation. These are important facts, and due weight will hereafter be yielded to them. Give to an animal that has undergone this operation the usual dose of emetic tartar or of aloes, and they produce not, at the usual period, and oftener not at all, their usual effects. These are striking illustrations of Dr. Marshall Hall's excito-motory system of nervous influence. He considers these nerves as simply excito-motory. The impression made on them is conveyed to the medulla oblongata, thence propagated to the brain, after which the appropriate muscles are set at work. If the nerves are divided, the impression cannot be transmitted to the brain—no mandate can be issued, and no effect is produced. The failure, however, in the action of medicines, and in the discharge of many of the duties of this portion of the system, may depend on one of two causes, and a little on both of them. There may be comparative insensibility of the stomach, or want of power in the spinal organic nerves to transmit certain impressions, or there may be insensibility in the cerebral system to receive and respond to the warnings that are conveyed. They are both dangerous pathological states, and it behoves the practitioner anxiously to inquire into the matter, and to apply the stimulus, or occasionally the sedative, in the proper quarter. Disease in the one may, and in a thousand cases does, derange the functions of the other. No two organs are, in a pathological point of view, so closely connected. You are now, perhaps, beginning to see a little the reason of this. In no two organs is it, occasionally, so difficult to detect which is in fault—which is the injurious agent, and which the victim. But I check myself: neither you nor I are yet prepared for these speculations.

*The Stomachs of Ruminants.*—These organs afford the most interesting manifestations of the motor power of the nerves of the stomachs. Consider the bulk of the rumen, and, after a hearty meal, the weight of its contents. I need not tell you that, after the process of rumination, it is never more than half emptied of its contents; and when that process again commences, it weighs twenty or thirty or forty pounds. How powerful must be the muscular action, and the nervous influence, to agitate a mass like this, and to bring every portion of it in its turn into

contact with the mucous secretion of that viscus. Observe the action of these nerves in projecting, as it were, the different portions of the food over the valve-like shelf which separates the rumen from the reticulum; or which causes the reticulum and the cud-duct to contract upon each successive portion, and to compel it to reascend the gullet—and, after that, the trituration and grinding down of the hardest and the toughest fibres between the leaves of the manyplus. In the distribution of the gastric nerves over the complicated stomachs of these animals, and the beautiful consentaneous action between every part of the complicated machine, the student will have much to employ and interest and instruct him.

The sensitive influence of these nerves has undoubted existence in the first three stomachs, yet modified and moderated by the cuticular coat with which they are lined; but in the abomasum or fourth stomach it is fully developed.

*The Branches of the great Spinal Organic Nerve continued.*—The right gastric nerve distributes filaments about the cardiac orifice, and then divides into several branches. Some go to the smaller curvature—I am speaking now of the stomach of the horse, where they anastomose with ramifications from the left nerve—others supply the greater curvature. They spread over the under part of the stomach—they give branches which can be traced to the spleen, and others which reach and entwine around the pyloric orifice, and they are not lost until they have travelled far down the duodenum. Other filaments are detached to the cœliac plexus of the semilunar ganglion, and then, in company with the ganglial nerves and the arteries of the respective viscera, find their way to the liver and the spleen.

The left nerve, after being distributed freely over the stomach, and anastomosing with the right branch, sends a variety of filaments of considerable size to join the hepatic plexus, and to help to form the semilunar ganglion. It is here lost as a distinct nerve; but its influence, motor and sensitive, may be traced in the greater number of the abdominal viscera. We shall better speak of this when we have considered the function of the ganglial nerves.

*The Duodenum.*—In this intestine the process of chylification is performed, or at least begun. The bile and the pancreatic fluid are received into it, and the separation of the nutritive and excrementitious portions of the ingesta are commenced. In the horse, a more important duty is discharged. From the comparatively small size of the stomach of that animal, and the cuticular construction of a great part of it, the previous process of chymification is very imperfectly accomplished, and the

duodenum, in addition to its other function, has to discharge the duty of a second stomach: the ingesta must be converted into chyme before the important separation of the fluid commences. There needs a considerable supply of nervous influence in order to complete this double purpose; there must be a powerful muscular apparatus in order to compress and to churn, to mix up and to dissolve, and to separate the food; therefore it is that the branches of the right nerve are seen so plentifully ramifying upon it, and extending almost to the commencement of the jejunum.

*Experiment.*—The source whence the duodenum derives its power has also been demonstratively proved. I refer again to M. Brachet. He divided the dorsal portion of the spinal cord in a guinea-pig; he then gave the animal a portion of food, which, notwithstanding the pain of the operation, it readily ate. The hinder limbs were of course completely paralyzed. In this state he suffered the animal to live eight hours, and then destroyed it. The stomach, the duodenum, and the jejunum, were perfectly devoid of food—the ileum, the cæcum, and the right portion of the colon, were distended with it; that is, the process of digestion had been carried on thus far without any aid derived from the spinal cord.

He took two other guinea-pigs, and gave them as much as they would eat, and, some hours afterwards, he destroyed one of them, and divided the par vagum of the other. He kept the second during several hours more, and then destroyed him also. The process of digestion had been carried to the same extent in both of them in the stomach, duodenum, and jejunum; or, in other words, the digestive power of these intestines had been destroyed by the section of these nerves. He repeated the experiment again and again, lengthening the time between the destruction of the one and the other, and precisely the same appearances presented themselves—the digestive power of these organs was arrested in the surviving one, so far at least as the jejunum. Below this intestine the digestive process continued, and the food passed as usual through the ileum, and into the large intestines; shewing, according to this talented physiologist, that another power was here at work. Whether this is correct, and from what source that power is derived, we shall not be competent to inquire until we have examined the function and the distribution of the sympathetic or ganglial nerves.

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## NAVICULAR DISEASE.

*By Mr. W. C. SPOONER, Southampton.*

SEVERAL years since, whilst attending some horses belonging to E. B. Portman, Esq. in Dorsetshire, my attention was directed by him to a fine old horse working in a waggon, that had been lame eleven years, the animal being upwards of twenty years old. Mr. P. said he should like for me to examine his foot when he died or was killed. I said I would with pleasure, but would tell him *then* the appearance I should find; and accordingly I described to him the effects produced by the navicular disease, being quite persuaded that this was the cause of the lameness. Nearly two years afterwards, being in Dorsetshire, Mr. P. told me the old horse had been killed, and the foot boiled and the bones preserved. I regretted this mode of preparation had been adopted, as it prevented my examination of the flexor tendon; but the navicular bone presented appearances of very considerable ulceration and roughness of surface, and in all probability the tendon had adhered to the bone. But what I wish more particularly to point out (it never having been, so far as I am aware, noticed by any one else) was the appearance of the os pedis. Its posterior and inferior surface, or rather edge, which had once been part of the inferior cartilages, had become ossified in such a manner, that, in the dried bones, it was, although not ankylosed with the coffin-bone, yet completely supported by those exostoses arising from it and just spoken of; so that, if neurotomy had been practised in this case, the tendon, although in all probability terribly diseased, would not have given way from the pressure of the navicular bone, as this bone would have been securely and sufficiently supported by the ossifications we have mentioned. It struck me, that this not only afforded a beautiful illustration of the conservative system of nature in repairing and alleviating injuries, but would also account, in some measure, for the very opposite results that sometimes attend the operation of neurotomy, in equally bad and long established cases: in one instance, perhaps, the horse working for years, and in another the tendon giving way in a few months; the former arising, probably, from the existence of similar ossification to that I have pointed out, and the latter from their absence.

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## A CASE OF NEUROTOMY.

*By Mr. G. M. MARSHALL, York.*

A BAY horse, aged, the property of I. Barber, Esq. of this place, formerly used as a carriage horse, but that for the last two years has been running in the coaches, has been lame for some years on the near fore leg, occasionally much lamer than at other times, but never sound since the first attack. He always rested the foot in the stable. I could find no cause of lameness in the leg, and the foot was not altered in structure: it was what is generally called, "a fair good foot." He was fired, and blistered from the knee downwards, and had a winter's run, but came up again without any benefit. In January last (at which time he had been about four months at work), he became so useless that he was ordered to be sold for what he would fetch. As I always thought the cause of lameness existed in the foot, I was desirous to try the effect of neurotomy on him. Accordingly on the 24th of January I had him thrown, and excised about an inch of the nerve on each side of the leg, above the fetlock joint. He got up evidently much relieved, and in a few days he was perfectly sound. In five weeks afterwards he was put to work again in the coaches, has remained sound to the present time, and has improved very much in condition.

## HYDRO-RACHITIS, WITH SINGULAR SLOWNESS OF THE PULSE.

*By Mr. POPE, Tarves, Aberdeenshire.*

I WAS called, on the 17th of October, 1835, to a horse belonging to Mr. Ruxton Hill, of Fiddes, Feveran. When I examined him, I found his pulse only 10 in the minute, with that strong bounding rattle which made the whole chest shake, so that you could have seen it at a distance. The heart at times ceased beating, and the horse fell down. Nevertheless he fed pretty well. I told the owner that, not being perfectly assured as to the nature of the disease, it would be as well for him to call in some other practitioner whom I might meet in consultation; however, he would not hear of that, but desired me to do what I thought best with regard to him. Accordingly, I bled him, gave laxatives every second day, inserted a seton behind each ear and a rowel in his

chest, and continued that treatment for a fortnight; when he gradually fell off his feed. In consequence of this I left off the laxatives, and the pulse rose to 25 per minute. As, however, the horse was still getting worse, and continuing to fall down every now and then, and there being no ultimate prospect of his recovery, I got two other veterinary surgeons to go and see him, who were of the same opinion as myself as to the hopelessness of the case. On this the owner of the horse gave us permission to destroy him. The disease proved to be dropsy of the spine, in the situation of the cervical vertebræ. On opening the spinal canal, at the first and second vertebræ, a considerable quantity of water flowed from the neck, evidently proceeding from a lower part of the spinal cavity. The brain and all the internal organs appeared quite healthy.

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## RINGBONE, AND UNPROFESSIONAL CONDUCT.

*Communicated by Mr. POPE.*

I WAS sent for in the month of January 1836, by Mr. Bean, Mains of Dumbreck, to inspect a mare. On examining her, I found she had ringbone in the off hind foot. I fired and blistered for the same, but with no good effect. The owner afterwards was told that Mr. George Cross, from Aberdeen, cured every disease, whatever it was; and that he should get him to see the mare, which he did. And although Mr. Cross knew the mare to be a patient of mine, he called, I may say from my own door, Mr. George Chalmers to go along with him and examine her. After inspecting the mare, they declared that they would cure her. They fired and blistered again for ringbone, but at the same time affirmed that the principal seat of lameness was at the stifle-joint; and, to make assurance doubly sure, they blistered her there also; but the mare still continues lame.

There is nothing particular in this case; and the only reason I have for sending this statement is to shew the want of brotherly feeling displayed by the beforementioned gentlemen, in endeavouring to prejudice the owner of the mare against me; and in treating the animal in the manner they did without acquainting me of the same, although I was called to the mare at first, and was intimately acquainted with both of them as brother practitioners.

[If we insert the charge—which we could not well refuse—our pages are at the service of the accused.—Y.]

## AN ACCOUNT OF A COW THAT NEVER CALVED.

*By Mr. W. A. CARTWRIGHT, Whitchurch.*

SOME years ago, Mr. Betteley, of Ightfield Heath, had a long-horned cow that was at her full time of calving about the month of May, and shewed evident signs of approaching parturition, the udder being of a great size, and the two feet being seen in the vagina; but in consequence of there being no one at home at the time besides the farmer's wife to assist her to calve, she was left alone for half a day or so, and when others came home she did not shew any particular uneasiness that had reference to calving, and was therefore left alone for the present, and until pains came on again. To their surprise, no straining or indication of calving made its appearance, but only a little moaning for a few days. Four or five days afterwards, they were persuaded to milk her, as her udder was beginning to get less, and not to interfere with her calving, which they accordingly did. She did not milk well for three or four weeks, but after that time she gave half a canfull all the summer, and it was believed that she would have given more had they begun to milk her earlier. She was sold at Drayton fair on the 24th of October, the same year, and was then giving a "good drop" of milk, from which time they never heard more of her.

She did not seem altogether right for some time after her time of calving had passed, nor did there much slime or matter come from her whilst they had her. She did not go "a bulling." She was very large at first, though her size gradually subsided; but they could feel the calf all the time in her.

I have spoken to several butchers on the subject, who say that they have occasionally found bones in the uterus, evidently the remains of a calf that had never been calved.

This case, and that inserted in the February number, I have sent to you in order to guard others from been too hasty in trying to extract calves, when it would be more prudent to leave them alone, however odd that may appear; for I sincerely believe had I never have meddled with the first case I have mentioned, the cow would, in all probability, have lived, although the retaining of the fœtus might have affected her health for a while.

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## THE SUPPOSED EFFECT OF THE EXHIBITION OF TURPENTINE IN COLIC.

*By Mr. SPENCER, Royal Scots Greys.*

A SHORT time since I was requested to see a mare, the property of Mr. Chambrè, of Hawthorn Hill, in this neighbourhood. I was informed that, five days previous, she had been attacked with spasmodic colic, from which she was relieved by a dose of ol. tereb. and ol. ricin.; but immediately afterwards, and up to the time of my visit to her, she had passed with her urine a considerable quantity of coagulated blood. Finding her in an exceedingly weak state, and learning that venesection had already been tried without the least apparent benefit, I did not venture to adopt a repetition of that treatment; but suspecting the rupture of a vessel, I considered my only course was to try the effect of some sedative and styptic preparation; and with this view, I directed half a drachm of the acetate of lead and tinct. opii two drachms, with a little water, to be given as a drench night and morning. This was persevered in for a week, with evident improvement. The lead was then gradually increased to nearly double the quantity, and given for ten days longer, at which time all unfavourable symptoms disappeared. There has been no return of hæmorrhage for the last fortnight, and the mare is now recovering her condition.

Perhaps, Mr. Editor, you or some of your readers will kindly favour me with your opinion, as to whether you consider the abovementioned symptoms might have been occasioned by the stimulating effects of the turpentine (which they say was only  $\frac{3}{4}$ ij) upon the urinary organs; or whether you consider it to have occurred from the lesion of a vessel.

## A KILL OR CURE REMEDY FOR TETANUS.

“If ignorance be bliss, 'tis folly to be wise.”

IN country practice we often meet with persons possessing the most absurd notions relative to the treatment of the diseases of animals. A few weeks since I was requested to attend a fine young mare in my neighbourhood, labouring under influenza, when the proprietor related to me the following case of a horse of his that was attacked with tetanus about two years before, when there was no professional man in the neighbourhood.

A farrier was sent for, and one of great skill in the estimation of some of the old farmers in the neighbourhood. He came,

and immediately pronounced the horse to be jaw-locked. He then had recourse to a bottle of his never-failing oil, and so belaboured the head and jaws of the poor animal, that in the course of a very few hours the hair was entirely removed from every part that was touched by this liquid caustic. The horse was then forced with some liquid in the form of a drench, but no symptoms of amendment appeared. An iron crow-bar was next introduced between the tushes and grinders on one side of the mouth, and brought out on the other side: two or three men were then placed on each side to pull at the jaw with all their force: their efforts, however, were altogether in vain.

By this time the farrier's stock of skill was expended, and he told the proprietor that nothing more *in the shape of medicine* could be done for the horse, unless to try to give him two bottles of Dutch drops, which he thought might do him good. The nostrum was given, but without the anticipated effect.

Now comes the kill or cure remedy, and which he strongly recommended to the proprietor, as the only thing in which he could place any confidence, after all other means had failed; and he said that he had witnessed its beneficial effects times out of number. The horse was to be taken into a field, and a gun fired over his head; he would then immediately open his mouth, or fall down dead. To this kill or cure remedy, however, the proprietor would not consent, and the poor animal died, apparently in the most extreme agony, two days afterwards. So much for the education of a smith's shop.

I sincerely trust, as a well wisher to the respectability of the veterinary profession, that the time is not far distant when, as (Mr. W. Clarke observes in *THE VETERINARIAN* of April 1833) "the illiterate farrier and cowleech, with his empirical nostrums, will be driven from the field, never more to assert his supremacy." Should you think that the statement of this case will in any measure contribute to the hastening of this period, you are at perfect liberty to publish it in your valuable periodical.

VETERINARIUS.

## THE DEGRADED STATE OF THE VETERINARY PRESS.

To the Editor,

I do not know whether you will allow *THE VETERINARIAN* to be the vehicle of the following observations; but as I infer from your motto of "*Quid sit pulchrum, quid turpe, quid utile,*

*quid non*," that you will, yea that a licence is therein positively granted for so doing, I have ventured at once, without any apology, to intrude upon its pages. The purport of these remarks refers to the great and increasing circulation of *spurious* editions of works on farriery or veterinary medicine.

I have had, within the last few months, come under my immediate notice, not less than six or seven treatises of that kind, containing *verbatim* copies of other persons' works, the makers of which, however, by the by, have not forgotten to give a high-sounding, taking title to each of them; to prefix a fictitious author's name in the title-page; to draw up a prettily worded preface or introduction; and, indeed, in some cases to spin out a long yarn of fulsome panegyric as to the writer's professional pedigree, education, experience, &c. Now, if this is not an infamous system of piracy, I don't know the meaning of terms.

I can assure you, Mr. Editor, that I can see no fun in paying for the same matter four or five times over, and thereby become the unprepared dupe of such crafty, money-making impostors. If ever the old adage of "The buyer has need of a hundred eyes" was more applicable at one time than another, it is now; for the press is at this time actually teeming with spurious veterinary works.

In all this we perceive the craft and roguery of the parties publishing them. There is *craft*, inasmuch as those cunning gentlemen (whoever they are) take care not to title their publications thus: viz. "Compilations from such and such authors;" No! No! This would never do,—this would frustrate their purpose and blight all their schemes at once, by restricting their sale, and consequently curtailing the amount of their profits. In short, this would tell the world what they meant. There is *roguery*, inasmuch as they are seizing what is not their own, and, indirectly at least, taking away the lawful right of the legitimate author, out of whose writings they have impudently collected their compilations, and made them pass for genuine. And how much better, I would ask, is this than knavery as it regards the public? They are, by means of this nefarious system of hoodwinking the public eye, literally making the purchaser again pay for a book he has already bought. Has any man a right to seize the property of another, as it issues from the press, and grasp it as his own, under an altered, modified form, by giving it a new name, &c. &c.; and thus rob the legitimate author of his due, with the specious plea of its being public property? Why, surely, this must be the most shameless insult upon common sense, the most daring outrage upon the common honesty of mankind.

I know a friend who was about to order "Blaine's Village Farrier," supposing it to come from the pen of that able veterinary writer, Delabere Blaine; but, fortunately for him, the stationer happened to have a copy of it by him, and allowed him to look over it before purchase, when he found it was poor old Francis Clater (verbatim), only dressed in new clothes. The same person ordered a work on Cattle Pathology, professing to be written by the facetious John Lawrence, a former respectable author; but, mortifying for him, he found (though not until the money had slipped out of his pocket) that it was a miserable production got up, he imagined, by some overgrown bookseller, from White, Clater, and others. Is it not therefore high time, Mr. Editor, for purchasers of veterinary works to be on the look-out before they buy, and not to suffer themselves to be gulled by a class of designing persons, who can at any time knock up a moderate sized, moderate priced, taking little book, without incurring the endless expenditure of labour, of health, and of money, to which the laborious, and, generally, miserably paid author is necessarily subject.

SCRUTATOR.

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## ANALYSIS OF THE INTESTINAL CALCULUS OF A HORSE.

*By Mr. MORTON, Royal Veterinary College.*

THERE was casually placed in my hands, a few days since, an intestinal calculus, which presented rather an unusual appearance. It was about the size of a cricket-ball, and slightly roughened on its outer surface. On breaking it, in order to ascertain its structure, and what was its nucleus, there slipped from out of its centre a mass as large as a horse chestnut. At first sight this struck me as being a portion of scybalum, which, by long retention in the colon, had become encrusted with calcareous matters. On closer inspection, however, I found it to be made up of the felted-looking substance so abundant in what are designated dung-balls. Placing a little of it under the microscope, I was gratified in finding it to be made up of minute hairs, terminating in sharp points, and which bore, I thought, a close resemblance to those which are seen investing the oat after the glume has been removed from it. On comparing portions of each together, I could see no dissimilarity whatever between them. Mentioning the fact to several friends, I was informed by one of Professor Dick's pupils, that he had taken the same

view, and taught it in his lectures. I am, therefore, glad to be enabled to confirm his opinion. Need I say, that I should not have ventured thus to give publicity to the circumstance, had I found any mention made of it in the communications sent to your journal by that gentleman? and, of course, I now lay no claim whatever to its discovery.

The harder parts of the calculus I find by analysis are made up of rather more than one-half animal matter, principally inspissated mucus, and the remainder consists of the phosphates of magnesia and ammonia.

An interesting inquiry arises as to the kind of oat most likely to cause an accumulation of this substance, and also what preventive and curative means, if there are any, should be had recourse to.

## ON THE MEDICINAL AGENCY OF THE HYDRO-CYANIC ACID.

*By Mr. HAYES, of Rochdale.*

IN my case of phrenitis, in the January number of *THE VETERINARIAN*, I stated that I believed prussic acid had a considerable effect on spasmodic action of the heart; and I also stated my intention of shewing its value by cases wherein I had tried it, and with the best results. I will, therefore, endeavour to redeem my pledge, by simply relating a few cases as they stand in my notes taken at that time. But before I proceed, allow me to state, that in the one in the January number there is an error committed, either by my pen or the printer. The dose of acid is there stated as three drops: it should have been thirteen, if it was Gay Lussac's; but if Scheele's, I give forty; if Magendie's, thirty: I have used all these, but principally that of Magendie.

### CASE I.

*August 4th, 1826.*—I was desired to see a fine half-bred horse, six years old, and sixteen hands high, belonging to Mr. Garner, a farmer near Altrencham. I found him labouring under violent tetanus, with visibly strong convulsive action of the heart, and the jaws completely set; he had been docked eleven days previously. It was as severe a case of tetanus as ever I saw, with spasmodic action of the heart conjoined. I bled to 12 lbs., and got aloes in solut. ʒviij, with antim. tart. ʒj, nitr. ʒij, digitalis ʒiss

into him by means of a tube; and I blistered the spine from the poll downwards, and to some extent on each side of the vertebral column.

5th.—No better; he has not voided either dung or urine. Medicine repeated, with half the quantity of Barbadoes aloes and the addition of opii ʒij. Clysters every two hours, and as much warm gruel as could be got into him.

6th.—Worse; no evacuations; bleed to eight lbs.; medicine repeated. The heart continues in as strong action as ever.

7th.—Still worse; no appearance of purging: treatment continued, but I have no hope.

8th.—Still worse. Seeing that this treatment had no good effect, I was disposed to give up the case as hopeless; but before he was destroyed, I endeavoured to obtain leave, which was immediately granted, to try for a short time a different treatment. I gave 30 drops of prussic acid, and mag. sulph. ʒiiij in a little warm water three times a-day. Three hours after the second dose was administered, the horse began to purge.

9th.—Still purging: medicine continued. Seven o'clock at night. The agitation of the heart is abated; the muscles of the body are not quite so rigid; but the jaws and neck as fixed as ever. Rub the head and spine, where the blister had been, with prussic acid ʒij, white wine vinegar ʒx twice a-day.

10th.—Can open his jaws about two inches; the spasm of the heart is gone, all rigidity has ceased, and he is eating freely of mash.

11th.—Treatment discontinued until the 13th, when he had a tonic ball, and was then struck off the sick list.

## CASE II.

October 2d.—I was called in to see a coach-horse, which had been very bad two days before, of what they termed "mad staggers." It was phrenitis; and very severely he was afflicted. We managed to tie him to a swivel in the middle of a large barn, so that he could range and plunge about without coming in contact with the wall. During one of his violent paroxysms he threw himself down. He was then secured, while I drew sixteen lbs. of blood from him, and gave him with great difficulty, Barbadoes aloes ʒviiiij and hydrocyanic acid 30 drops in warm water. Six hours afterwards I gave hydrocyanic acid 30 drops, and mag. sulph. ʒiiij in warm water, and ordered it to be repeated every eight hours. The head was blistered, and enemata were thrown up three or four times a-day.

3d.—He appears very dull, heavy, and insensible to every thing around him. Wash his head with warm water, for the

blister has not acted; rub the part with hydrocyanic acid  $\text{zii}$ , acet. vini  $\text{℥x}$ . Continue medicine.

4th.—He is become tranquil, and eats a little mash, but has not yet had any evacuation. Application to the head continued. Medicine given only once a-day.

5th.—Purging freely. Much better: he is now conscious of every thing about him. Discontinue medicine.

6th.—Doing well.

7th.—Very weak. Give a tonic ball.

On the 9th I saw him again; all appeared to be right, and he was struck off the list.

### CASE III.

This was a case of complete tetanus. It occurred in January, 1827. I commenced by bleeding to 12 lbs. and I gave, by means of a tube, hydrocyanic acid 30 drops, and mag. sulph.  $\text{℥iiii}$  in a little warm water, three times a-day. I applied the acid and vinegar mixture to the cranium, and all along the spine; and did not attempt to blister. On the fourth day this horse was quite recovered.

### CASE IV.

March 1828.—This was also a tetanic case, accompanied by strong spasmodic action of the heart. The patient was an old mare of small value, and the owner made me a present of her; I therefore thought this a favourable opportunity for trying the effects of the acid singly, without risking the property of my client. I administered 20 drops of acid in  $\text{℥viiij}$  of warm water every six hours, and applied the acid, &c. mixture to the head and spine as before, twice in the day. By the third day the heart had become tranquil, the rigidity of the muscles was much relaxed; and on the fifth day all symptoms of the disease had disappeared. She remained very weak for a week or two afterwards; and she had two or three tonic balls during this time, with nutritious food, by means of which she was soon restored.

### CASE V.

Sept. 1829.—This was a case of severe spasmodic action of the heart. My patient was a young bull. The pulse was about 70; no appetite; countenance pitiful and anxious; breathing not much disturbed; extremities warm. The heart  *jerked*, as if it would break from its confinement. I immediately subtracted 16 lbs. of blood, and gave hydrocyanic acid 35 drops, mag. sulph.  $\text{℥iv}$ , three times a-day.

On the 2d day, at 12 o'clock, the pulse had fallen to 40, and the jerking action of the heart was abated.

*3d day.*—He appears stupefied and sleepy.

*4th day.*—The heart is quite tranquil; he eats a little hay and mashes. Discontinue treatment.

*5th day.*—He appears in perfect health, and is struck off the list.

#### CASE VI.

*January 23d, 1834.*—I was requested to visit a fine hunter, belonging to a gentleman of this town. I will give you the groom's account of the matter, as nearly verbatim as possible, when he came for me:—"I cannot tell what's the matter with him. I left him all right last night; but when I opened the stable-door this morning, he appeared as if he had been dreadfully frightened, for you may both see and hear his heart beat as soon as you get to the stable-door—thump, thump, thump, like a cotton-weaver's loom." On my arrival, the appearances of the horse fully vindicated the description which the groom had given. The spasmodic action of the heart was really appalling; the diaphragm seemed to be also affected in a strange manner; and there were contractions of the muscles of the neck and left fore-leg. The breathing was not much quicker than usual, but very strong and heavy, accompanied with deep sobs and sighs at about every fourth respiration; the countenance shewed great alarm, and was fearfully anxious. The least noise or disturbance about him threw him into violent agitation. The jaws, eyes, ears, tail, and muscles of the body, were not at all affected; nor was there the slightest tetanic symptom. His pulse was about 54, very irregular both in strength and time. He had not eaten his last night's hay or corn. I took away 12 pounds of blood, and administered the following medicine three times a-day in water-gruel: hydrocyanic acid 30 drops, mag. sulph.  $\mathfrak{z}$ iv, antim. tart.  $\mathfrak{z}$ ss.

By the third day all the violent symptoms had, in a great measure, subsided, and the appetite was returning.

*6th day.*—All appears to be right: discontinue medicine.

*7th day.*—Struck off the list.

In July, 1835, he was again attacked in a similar manner. The symptoms being the same, I pursued the same treatment as in his former attack, which was attended with the same beneficial results; for in five days he was again considered quite well. In September, 1836, he was seized, at a distance of twelve miles from home, with precisely the same affection, according to the

account given. He was attended by a practitioner residing in that place, and he died on the second day.

I am very sorry I cannot give the post-mortem examination of this case, not having had the opportunity of seeing him either before or after death. I did make all the inquiry I could of the person who bought the carcass; but all he could tell me was, that he noticed that the heart was considerably larger than any he had ever seen before, and that its texture was much softer; and also that in some parts it was blacker, and in others of a lighter colour than common.

I have many other cases recorded in which I have given the acid, and with similar success; but at present I think I have stated enough to warrant me in the opinion I expressed in my case of phrenitis—that prussic acid has a considerable effect in strong spasmodic action of the heart. If administered in small and repeated doses, I am convinced that it has a powerful effect on convulsive, spasmodic, and nervous action, generally; and more so than if given in large and overwhelming quantities.

My first trial of it was on a young greyhound of mine in the year 1824. He had recovered from the distemper, but it had left him much afflicted with chorea of the head, neck, and one fore leg, which resisted all treatment during two months. I therefore determined to try prussic acid, and either to kill or cure him. I commenced giving him two drops in two ounces of warm water twice a-day, with good and nutritious food, and was very much surprised to find that, after taking the medicine only two days, the affection much abated. In seven days there was not the least symptom of the disease remaining—the dog grew apace, and made a very excellent one in the field for three or four years.

I have also given it in cases of spasmodic cough, with the happiest results; and of late I have administered it in pneumonia with very encouraging success. At present I shall not offer any comments on these cases, but will leave them to that tribunal, practice, and future experience, to which I trust that I shall ever bow.

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## THE MEDICINAL EFFECTS OF EMETIC TARTAR.

*By Mr. GLOAG, VS., 10th Royal Hussars.*

I PERCEIVE in the last Number of *THE VETERINARIAN*, a few remarks on the use of tartarized antimony as a vesicatory on the skin of the horse, which is an extract from a letter I sent some time since on another subject. This article having ap-

peared, may I be allowed to state the following particulars respecting it:—I believe tartarized antimony, either exhibited externally or internally, will affect the horse, the degree varying according to circumstances.

In the summer of 1833 I had an inveterate case of mange. The skin was corrugated and pustulous; and no sooner was it apparently well, than it would break out again with increased violence. I had been taught, and I believed at this time, that emetic tartar would under no circumstances affect the horse; and as an experiment I thought I would try what would be the result of its application to this mangy mare.

I prepared an ointment consisting of equal parts of tartarized antimony and lard. I had the mare brought out to the sun, and well dressed with the ointment all over the back and shoulders. In an hour or two I was called to see the patient. I found her in excessive pain, pawing and tearing up the litter, panting, trembling violently, &c., and the coat, where she had been dressed, staring, and so tender that she would not bear it to be touched. Pustules arose all over the back and loins, and, after a few days, excessive sloughing commenced on the part to which the ointment had been applied. In the course of many months, and after an infinity of trouble, these sloughs did heal up, leaving places destitute of hair, with thick ridges and seams in the skin, as if the animal had been burned. I need not say that the mare was never troubled with mange again; but certainly the remedy was worse than the disease.

Shortly after this, I remember experimenting on a glandered horse, which I held over for the purpose. I shaved the hair off part of the hip, and applied the ointment, which was rubbed in twice. There was great irritation and swelling, and serous discharge, and a crust formed on the skin.

From the few experiments I have made with tartarized antimony externally, I am of opinion that, if applied to the skin in a state of disease, such as mange, where there is any pustular eruption, abrasion of cuticle, &c. it will act as a caustic of a violent kind; but if applied to the healthy skin, it may require a second or third rubbing before it will produce much effect, and without the rubbing is carried to an extreme length no sloughing will be produced. The same is the case with the skin of the human being, three and even four applications being sometimes necessary before vesication is accomplished.

With respect to its use internally, I consider that, under certain circumstances, it produces a very strange, lowering, and debilitating effect. In the month of June last, a troop horse was affected with some disease of the brain. When he was tied

up in a stall, he was sure to fall backwards, seemingly unconscious ; and when loose in a box, he was always circling to the left. He never lay down—the head was always poked out—the eyes staring, and with a stupid expression of the countenance. When loose in the barrack yard, where he was usually turned every night to graze, he was almost constantly circling to the left : he would begin in a large circle, perhaps at a walk or trot, and increase his pace, gradually making the circle smaller, until he would spin round and round, and eventually fall.

The usual remedies, such as depletion, purging, blistering, &c. were tried with no effect—the animal seemed neither to get better nor worse, and continued in this state for two months. I then tried the tartar emetic, and gave four drachms daily for six days, and at the same time blistered the poll. During the administration of the antimony, the pulse daily became weaker, and the animal's strength and vital powers gradually failed him. On the sixth day, the pulse was imperceptible—the legs and ears were deathly cold—and the membranes of the mouth, nose, and eyes nearly white. The strength was so far gone, that the least push would have thrown him down ; and I expected that he would have died. On the discontinuance of the medicine, the strength very gradually returned, the disease of the brain seemed to be considerably abated, and from that time he began to recover. In September he was sold as an aged horse ; but I have since heard that he is doing well.

I am in the habit of using tartarized antimony in combination with tar, nitre, &c. for recent coughs, with the best effect ; and I certainly consider it as a useful article in the veterinary pharmacopœia. On the earliest opportunity, it is my intention to institute a course of experiments on its medical power when used both externally and internally. The result I will communicate to the editor of *THE VETERINARIAN*.

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## PARALYSIS IN LAMBS.

*A Letter from ———*

I HAVE for the last two or three years been experimenting on crossing the Cheviot sheep of this country with the Russian breed of sheep ; and the result has been, that I have produced an animal of a large size and rapid growth, but which is subject to a disease uncommon to the breeds of sheep in this country. The lambs, when about five or six weeks old, are frequently affected with paralysis in the hind legs, from which I have never been able to

recover them. If they pass the age I have mentioned without an attack of this disease, they grow strong and healthy ; and I have killed them when two years old, weighing twenty-six pounds per quarter. From the interest which I know you take in these matters, I have sent you, by the bearer, one of the lambs about five weeks old, and affected in the manner I have described, which you may experiment upon, and perhaps discover the cause of the disease, and the means by which it may be cured. The lamb I have sent you was a twin, which its mother would not take to, and has been brought up in a cotter's house : it is, on that account, not so large as the other lambs of the same age. You will observe, that both in shape and wool it partakes of the peculiarities of the father's breed. He has no tail, but a large mass of fat instead. The Cheviots, you are aware, have a long tail : their representative in this part shews the union of the two. The lamb which you will receive is black ; but they are not all so, the majority being white, and some spotted black and white. The ram is of a brownish colour. I shall be happy to be favoured with an account of any experiments which you may think of making upon the subject sent.

[A variety of remedies were tried, but without effect. After death an effusion of serum was found in the lateral ventricles of the brain.—D.]

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## ON THE INFLUENCE OF THE VAPOURS OF LEAD ON DOMESTIC ANIMALS.

*By A. TROSSEAU, D. M. P.*

By publishing these short remarks, I wish to draw the attention of veterinarians to a fact which seems to me of some importance, and to engage them to make known any observations of the same nature which may have occurred in their practice.

There is at Tours a manufactory of minium (red oxyde of lead) at which a considerable number of workmen and several horses are employed. A great many persons are every year received into and treated in the hospital, who are the victims of this kind of work, and their symptoms are all those of colic from lead. The horses belonging to the establishment are soon affected with roaring ; the respiration becomes more and more difficult, and is very loud when the animal takes any violent exercise ; and if the owners wish to preserve the horse, they are often compelled to perform the operation of tracheotomy, and to keep the opening from closing by means of a large tube, until all the symptoms disappear, and the respiration becomes easy. M.

Pécard-Taschereau, the director of the establishment, has never seen any other diseases produced in the horses; but the cats that remain any length of time in the house, and particularly in the workshops, are attacked with convulsions, which speedily destroy them. It is much to be regretted that the bodies of some of these animals were not opened and examined; for it would have been equally useful to the human and to the veterinary surgeon. I will also add (what appears to me to be a very singular thing) that neither the house-dogs nor those belonging to the workmen, and who frequently followed their masters into the workshops, ever experienced any unpleasant or fatal symptoms.

It is also remarkable, that while many persons have taken enormous doses of the acetate of lead for the cure of certain disorders under which they laboured, and have been benefitted rather than injured by it, the vapours which are extricated in the manufacture of that substance cannot be breathed with impunity. M. Pécard Taschereau gave to some cats a great quantity of minium without producing those dreadful convulsions which are sure to destroy them if they remain only a few days in the workshops in which this oxide is prepared.

Associated with the colic of lead is frequently found an extreme difficulty of breathing, although the tissue of the lungs is often found perfectly healthy. Probably it is the same incomplete paralysis of the muscles of the larynx which causes the horses exposed to the vapours of lead to become *roarers*.

*Journal Méd. Vét.* 1837, p. 162.

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## OF THE DISEASES COMMONLY KNOWN BY THE NAMES OF THOROUGH-PIN, WINDGALL, AND VARICOSE ENLARGEMENTS, WITH A PECULIAR MODE OF FIRING THEM.

*By M. U. LEBLANC, M. V. à Paris.*

I HAVE no intention to write a perfect treatise on the lesions above-mentioned; but rather to lay before the public some observations relating to them which I have made in the course of my practice.

It is generally agreed, that thorough-pins and windgalls arise from the presence of an unusual quantity of synovia, and a distention of the synovial envelopes. The manner of their formation is not clearly understood; some attribute them to primary

inflammation of the synovial membranes, and others to a distention of the envelopes of the synovial cavities. I am of the latter opinion. I think that the disturbance in the absorbent and secretory functions of the synovial membranes, and consequently the inflammation of those membranes, are almost always preceded by distention of the capsules of the sheaths, or the various fibrous textures which surround the articulations or the tendons. It often happens that the inflammation, which is regarded as the first and principal cause, does not manifest itself outwardly by any symptom belonging to that state of the organs which can be properly called inflammation, with the exception of the swelling; and that symptom exists only in appearance, for no one would maintain that the tumour which is found on the hock on which a thorough-pin exists, is owing to tumefaction of the synovial membranes, or the secretory texture which they contain.

I may observe, in confirmation of this opinion, 1st, that, in almost every case, thorough-pins and windgalls are produced by the violent and repeated extension to which the fibrous tissues that bind together the articulations are subject. 2d, That inflammation of the synovial membrane, excited by a wound penetrating into the joint, is not followed by the development of a thorough-pin or a windgall. 3d, That in some cases these enlargements immediately follow the distention of the parts, without the appearance of any manifest inflammation of the tissues in which the thorough-pin or the windgall is seated. That which is most to be feared, with regard to the thorough-pin and the windgall, is the distention of the tissues which surround the capsules; and it is to combat that distention that the efforts of the veterinarian should be directed. As I have said, I do not deny the lesion, said to be inflammatory, of the synovial membranes. These membranes undergo many well-marked changes, as I have often observed in the carcasses of those that had thorough-pins, or varices\*, or windgalls, or dropsies of the tendinous sheaths, and which have not yet received any appropriate name. I have seen these membranes lose their transparency; I have seen them assume different degrees of cloudiness: in the same articulation some portions have been of a vermilion redness, others of a cherry colour, others of a deep red, and some were yellow, and others black. I have often found gelatiniform

\* Those which I have often heard called varices are not, as one would be right in supposing, a dilatation of the saphena, but dropsy of the articular capsule of the inferior, anterior, and internal part of the tarso-metatarsian articulation. It is a true thorough-pin, of very common occurrence, and often resists the most energetic treatment.

infiltrations under the mucous membrane, in the secretory textures, and in the cellular texture which surrounds them. I have also seen true false membranes, of greater or less consistence, in the interior of the articular capsules. These false membranes, which were sometimes adherent by a few points, and at other times free in the cavity, presented a great variety of consistence and of colour. I have sometimes traced in them much analogy with the fibrine that is obtained by agitating and washing blood; but they bore the greatest resemblance to the organized bodies that are found in certain serous abscesses, the consequence of long-continued compression or friction on certain superficial regions of the body, as the hock or the elbow. Sometimes these false membranes present themselves under the form of highly polished, white, and hard lenticular bodies, swimming in the synovial fluid.

When the thorough-pins are of long standing, and very large, and their walls, forming an infinite number of cells of various forms, are become cartilaginous, and even bony, I have seen the membrane and the articular cartilage destroyed, and their bony substance worn away like so many furrows. It is very probable, that when the thorough-pin has attained the state of which I have just spoken, that the synovial membrane has been destroyed in many points, corresponding with the cavernous diverticulum of which I have spoken, and that the internal membrane is a new formation. The destruction of the synovial membrane cannot possibly be doubted when two neighbouring articular cavities, naturally separated, unite into one. This last state, and the wearing away of the cartilages and even of the bones, is sometimes met with in old horses, when there was no reason to suspect the existence of any articular disease.

The synovial fluid is also altered; usually it becomes more liquid, and of a deeper colour, and it is not so oily as in its natural state.

I care less about the theory of the development of thorough-pins and windgalls than of the means by which the formation of these diseased structures may be prevented, or successfully combated in every period of their growth.

I do not pretend to have discovered any remedy of a marvellous nature, nor to accomplish more than my brethren are enabled to do, or have done; perhaps my mode of treatment may not be essentially different from that which has been adopted or attempted by others. The same means are not applicable to the same lesions in every part. I could not treat thorough-pins of the hock and windgalls of the fetlock precisely in the same way.

Generally speaking, I have nothing to do with the lotions and warm fomentations, simple or compound, which are recommended by those who attribute the appearance of the lesions to inflammation of the synovial membrane; and I have nothing to do here with those acute and painful inflammations which arise from distention of the articular envelopes: but I do, in recent cases, use cold lotions, and as cold as I can make them, and sometimes continue the application of them for a considerable period. I am not aware of any medicaments, called astringents, which much augment the salutary power of the cold water; yet I do not altogether neglect the application of them, such as the sub-acetate of lead, the sulphate of iron, oak, and willow bark.

Spirituos infusions, and particularly that of camphor, are rarely or never employed by me, nor the volatile oils of turpentine and lavender, whether pure or lowered in strength. They are sometimes injurious in the early stage of the tumour, and they produce no good effect in its more advanced state; that from which I derive the greatest benefit is compression, applied by means of linen bandages; but it is not every coachman or groom that properly applies them. The bandage is generally too tight above and below, and not sufficiently so on the seat of disease. The cold lotion is continued as long as the horse wears the bandage. Windgalls of recent formation will frequently yield to the united influence of compression and cold; and we cannot too diligently or too long employ those admirable agents. One of the most useful of the astringents is the Provence rose, macerated in rough but not acid red wine.

If the windgalls, or thorough-pins continue to grow notwithstanding these applications, and especially if they assume an indolent character, it would be lost time to persist in this mode of treatment. Vesicatories composed of cantharides with ammoniacal liniment should then be resorted to, and applied with more or less frequency and severity, according to the state of the case: there will, however, be no necessity to blemish the patients.

These applications having been made three or four times, and the tumours still remaining soft and not diminishing, there is but one remedy more, and that is the firing-iron. The effect of the cautery, like that of the blister, may be transient or permanent, according to the manner in which it is employed. If the usual precautions are taken not to penetrate through the skin, it is comparatively seldom that much permanent good will be effected—little more will be done than to deprive the skin of a part of its suppleness, and it will not be so distensible as before. It is true, that this is doing good; but much more important results may be obtained by another way of firing, and that is

puncturing the skin with an iron half a line or a line in diameter, and sharpened at the point. Not only the skin, but the subcutaneous cellular tissue should be penetrated to a depth depending on the nature of the case. The cellular tissue and the integument will, in consequence of the cauterization, acquire a degree of induration that will continue for a long time, and perhaps always, and deprive them of their natural extensibility.

The cautery applied in this manner leaves very little blemish; and in proportion as the punctures are multiplied, and, as it were, crowded together, will be the good effect produced: a sort of permanent compress will be formed, which supersedes every other kind of bandage that can be contrived.

I believe also that the heated iron, applied sufficiently deeply, exerts a decidedly beneficial influence on the vital power of the synovial membranes, and every function is more naturally and healthily discharged.

No danger, even with the most irritable horses, attends this application of the cautery. On the contrary, it is attended with far less pain and after-inconvenience than the ordinary transcurrent cauterization, which is occasionally followed by enormous and torturing tumefaction and sloughing. I have seldom occasion to cast the horses in order to apply the cautery in the pointed way, and I fear so little any subsequent danger from inflammation, that I blister immediately after the firing, and repeat the blister four or five times.

The blemish left by this mode of firing is little indeed, compared with that which the ordinary cautery leaves behind; partly because few of the roots of the hair are destroyed, and more so, because so small a portion of the skin is subjected to the iron. In the common mode of firing, a portion of skin three or four times as large as the actually diseased part is necessarily cauterized: in this deep firing with the pointed iron, it will seldom be necessary to go an inch beyond the limits of the tumour.

The principal caution after this mode of firing is, to avoid all violent exertion of the limbs, until the cicatrices are well consolidated, and that will be effected in about a month.

I scarcely know the case in which this deep cauterization may not supersede the superficial method which is so generally practised. For windgalls and engorgements of a similar nature it is far preferable to the old way; and I do not know why it should not be so with regard to osseous tumours. I will not, however, enter on this branch of our subject until I have put to the test the almost marvellous effect of the periosteotomy so strongly recommended by Mr. Sewell, who regards the cautery not only as a useless but a barbarous operation, and who told me jokingly, when I had the honour of seeing him in London, that a petition ought to be presented to Parliament, praying for the utter prohibition of so disgraceful a practice. Without at present prejudging the question, as to this new operation, of which I cannot, as yet, speak experimentally, I will only say, that I think the Professor is a little too exclusive.

## A LIST OF STUDENTS WHO HAVE OBTAINED THEIR DIPLOMAS AT THE ROYAL VETERINARY COLLEGE.

APRIL 6, 1837.

Mr. John Swan, Stamford, Lincolnshire—Mr. T. F. Plomley, Northiam, Sussex—  
Mr. John Buckingham, Walpole, Suffolk—Mr. James Spencer, Wareham, Norfolk.

APRIL 11.

Mr. T. Brough, Langley, Derbyshire—Mr. Thomas Edwards, Oswestry, Shropshire—Mr. Robert Hardy, Grantham, Lincolnshire.

APRIL 24.

Mr. Joseph Carlisle, Wigton, Cumberland—Mr. — Jex, Woolwich—Mr. Edward Clark, London—Mr. G. Holmes, Tuxford, Nottinghamshire.

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## ANIMAL PATHOLOGY.

By Mr. YOUATT.

### LECTURE XI (*concluded*).

#### *The great Spinal Organic Nerve (continued).*

WE have traced the function of the Duodenum, of whatever nature it may be, to the influence of the *Great Spinal Organic Nerve*. M. Brachet divided this nerve before it reached the duodenum, and the digestive power of this viscus was at once suspended; but it continued in the ileum and the large intestines, curiously but satisfactorily proving that another power was here at work. He suspected that it was derived from the spinal cord, and he divided the dorsal portion of the cord in another animal. The digestive function continued to be discharged in the duodenum and the jejunum; but it instantly ceased in the intestines below, and they became clogged with matter which they could not propel. In order satisfactorily to understand this, we must for awhile retrace our steps.

*The Structure of the Spinal Cord.*—Sir Charles Bell was the first to discover and plainly demonstrate the six columns of which the spinal cord is composed. The lateral ones, or those which he added to the four already acknowledged, and from the sulci at the bases of which sprung the nerves of sensation and of voluntary motion, consisted of a narrow line of white matter, very perceptible opposite to the corpus olivare, lost at the edge of the pons varolii, and not very easily distinguished far below the medulla oblongata. Sir Charles Bell says, that this convexity or fasciculus, or *virga*, may be traced down the spinal marrow, between the sulci which give rise to the anterior and posterior roots of the spinal nerves. In another place he says, that “it is continued down the lateral part of the spinal cord.” Dr. Quain describes it as a depression rather than a projecting substance; for

he says that "along the lateral aspect of the cord a slightly depressed line may be traced down as a continuation of that which separates the corpus restiforme from the olivare, gradually however becoming more faint, and ceasing to be perceptible about the upper part of the dorsal region."

Whatever difficulty there may be in the anatomical proof of the existence of this track of organic nervous power, there are many physiological facts which can be explained solely on the supposition of its existence. The organic power of the respiratory portion of the seventh pair, and of the par vagum, have been sufficiently illustrated. We proceed a little way down the cord.

*The Spinal Accessory Nerves* arise from several filaments springing plainly and evidently from the lateral portion of the spinal cord—the continuation of the line occupied by the organic nerves already considered. As soon as a few filaments have united to form a nerve, it ascends between the sensitive and motor portions of the superior cervical nerves, and enters the cranium, and comes in contact with the great spinal nerve, and issues from the same foramen with it, and, after numerous anastomoses with other nerves of common sensation and motion, it distributes itself, and is lost on the mastoid and trapezius muscles. These muscles are principally voluntary ones—they are concerned with the motions of the head and neck and fore extremities, and they are supplied with nerves from other sources which endow them with this voluntary power. But they are wanted when the animal is unconscious of their action; they are wanted still more in hurried breathing, and then they act involuntarily: they become devoted to the purposes of organic life, and they afford a striking illustration of the excito-motory system of Dr. Marshall Hall. Sir Charles Bell put the real function of these nerves fairly to the test. He divided the fibres from the lateral face of the spinal cord, and these were no more organic, but simple voluntary muscles. Excited respiration was produced in an ass, and these muscles were brought into powerful action in combination with the other muscles of respiration: while this was performing, the nerve was divided—the motion ceased, and the muscle remained relaxed, until the animal brought it into action as a voluntary muscle. Here, then, is evidently a source of organic power either superficially or deeply seated.

*The Phrenic Nerve.*—The upper fibres which go to form this nerve proceed from the same distance down the cord with the lower ones that went to form the spinal accessory, but from different columns—no longer from the lateral surface, but from the columns of sensation and voluntary motion. As the nerve pro-

ceeds down the neck, it is joined by other fibrils from both surfaces, even as low as the sixth cervical nerve; and then it pursues its solitary course until it reaches the diaphragm, into the substance of which it plunges, and is lost. I need not tell you that it is the muscle mainly concerned in respiration; that in its natural or relaxed state it bellies into the thorax; that, stimulated by the influence of this nerve, it contracts—it is flattened—and the cavity of the thorax is enlarged, and air rushes in through the nostrils and the mouth, and the act of inspiration is performed. The nervous influence being withdrawn, the muscle relaxes, and once more bellies into the thorax, and the cavity is diminished, and the air is expelled, and the act of expiration takes place. There are other agents at work, but this is the function of the diaphragm. If the spinal cord is divided above the origin of the phrenic nerve, respiration is immediately impeded, and soon ceases, for all the nerves concerned in the dilatation and contraction of the chest are cut off. It is an organic nerve, for it is at work by day and by night, and whether we are conscious or unconscious of its action. It is, to a certain extent, altogether independent of the will. The diaphragm, however, can occasionally become a voluntary muscle. We can increase or for awhile suspend its action when we please. We can do so indirectly by calling in the aid of other muscles to accelerate or give force to its action; or to oppose a resistance to it which it has not sufficient power to overcome: and recent and deeper observation has induced me to suspect that it may within certain limits become a muscle of voluntary power. We are conscious of a certain control over its action. I can understand this when I contemplate the structure of this nerve. I see it springing from the same line with those of sensation and motion; I see it possessing the same characters: I have the numerous minute fibrils of the motor nerve, and I have the ganglion of the sensitive one; at the same time I have every character of a true organic nerve. It is at work whether I am thinking of it or no; and though I can to a considerable degree interfere with its proceedings, I cannot do so to the destruction of life, or to any lasting inconvenience or injury.

I can trace, then, the existence, superficial or deep, of a column reaching thus far down the spinal cord, and devoted to the functions of organic life.

*The External Respiratory Nerves.*—I do not attribute any very great importance to the pectorales muscles, major and minor; or to the serratus magnus. The latter of these Sir Charles Bell calls the inferior external respiratory nerve of the thorax. It is given off from the fourth and fifth cervical nerves, and is distributed over the chest, on the serratus magnus anticus. This

muscle, like the trapezius, has other nerves which constitute it a voluntary motor muscle; but the long descending nerve constitutes it an organic muscle, in order to contribute to the production of full inspiration.

*The Intercostal and Lumbar Nerves* belong to precisely the same class. They are all nerves of voluntary motion and sensation. By means of the proper intercostals, whether external or internal, the costal arches are brought forwards and thrown outwards, and thus the cavity of the chest is enlarged. Being the muscles of the sternal region, they approximate the cartilages of the anterior ribs, they elevate perhaps in some measure the sternum, and they contract the cavity of the chest. The dorso-costal muscles elevate the ribs, and enlarge the cavity of the chest—the levatores do so more especially. All the external abdominal muscles, while they support different parts of the viscera, while they compress the bowels, and assist in the evacuation of the fæces and of urine, act exceeding powerfully in diminishing the cavity of the chest, whether longitudinally or laterally. These are all muscles of voluntary power—we often use them forcibly and effectually for several purposes; but they are also—the greater part, or the whole of them—muscles of involuntary power—muscles connected with organic life. They are therefore not only made up of fibres from what we have hitherto been accustomed to consider as the only powers resident in the spinal cord, feeling and voluntary motion: they are acted upon by other principles, they are devoted to other purposes; they are parcels and portions of that system of organic and vital power which first began to be evidently developed in the medulla oblongata, but pervades the greater part of the spinal system, and is the most important part of it.

*The Excito-motory System.*—These powers of the organic nerves, attached to and forming a part and portion of the spinal cord, although not yet demonstratively proved to have bodily existence there by means of the anatomist's knife, yet are sufficiently and satisfactorily proved by their incessant and powerful agency. The functions of life are discharged by their energy, and by that alone, and while we are altogether unconscious of the affair: they belong to the system of organic life. The nerves to which almost alone attention has been directed, are the sentient and the voluntary, so these, by some physiologists, are divided into the *excitor* and the *motory*. The first, or the excitor nerves, pursue their course principally from *internal* surfaces, characterized by peculiar excitabilities to the true medulla oblongata, or spinal cord: the second, or the motor nerves, pursue a reflex course from that medulla to muscles having peculiar actions, and principally

concerned with ingestion or egestion, or some of the vital functions of life : the system is connected with these chiefly, or these alone. In the act of ordinary breathing the filaments of the par vagum are excited by the contact of a certain portion of carbonic acid in the lungs : that excitation is conveyed to the medulla oblongata ; and the medulla oblongata combines the actions of certain muscles under its control, and by their joint influence the cavity of the chest is contracted and the carbonic acid expelled.

I have little objection to this system, so far as I am enabled to understand it. The plain matter of fact is, that a system of nervous energy, of which our predecessors had somewhat confused ideas, has been introduced among us, and based on the surest ground, that of anatomy and physiological experiment. There are in the spinal cord two perfectly distinct yet allied systems of nervous action, that which relates to our connexion with things around us, and that which is connected with life itself ; and it matters little whether we call the one the animal and the other the organic system, or whether we distinguish the one by the title of the *sentient* and *voluntary*, and the other the *excitor* and *motory* powers.

And now, gentlemen, we arrive at the point whence we just now started. In the functions of respiration and digestion which we have lately considered we have traced the energy of the vital powers connected with the medulla oblongata in the first instance: A portion of the respiratory apparatus, as had been sufficiently illustrated in former lectures, was under the influence of the seventh nerve—the portio dura of the seventh, according to the old distribution—many of the muscles of the face were involuntarily and unconsciously engaged in the common process of breathing, both under circumstances of health and disease. From a lower part of the medulla oblongata sprung the glosso-pharyngeal nerve, combining other of the muscles of the face and of the throat. The influence of the vagal nerves was traced in the larynx, the trachea, the bronchi, the general structure and function of the lungs—and in the first and important processes too of digestion—in the motions of the pharynx, the œsophagus, the stomach, and the first intestine—and there, so far as the medulla oblongata was concerned, the influence of the organic nerves plainly and altogether ceased. In the latter portion of the present lecture, when the medulla oblongata was acting no more, the principle of organic life is not lost, but a similar power exists in other portions of the spinal cord ; we trace it in the function of the spinal accessory nerve—the phrenic nerve—the exterior respiratory—the intercostals, the lumbar, the abdominal nerves. They are no longer, as perhaps we had carelessly imagined, or

had been superficially taught, simple nerves of animal power, connected with sensation and voluntary motion alone, but they are all actively employed in the immediate and indispensable functions of life itself. Through every successive part of the spinal cord, although invisible to the eye—although “the narrow line of white matter” can be seen no longer—although it has given way to an apparent depression, yet the same presiding power has existence, the same functions of organic life are carrying on, and the spinal cord is discharging a far more important office than we have always been accustomed to attribute to it.

*The nervous Power which governs the lower Intestines.*—The power of the medulla oblongata and the vagal nerve have ceased so far as the involuntary motions connected with digestion are concerned. I have divided—or rather Brachet has done so, and I had rather he than you or I—I do not think that we should feel quite comfortable after having sacrificed nearly 500 lives even in the pursuit of experiments like these—he has divided the spinal cord towards the inferior part of the dorsal region, and the duodenum and jejunum continue to perform their functions, but the ileum and lower intestines cease to act. The ileum, the cæcum, the colon, and rectum, come under the influence of the spinal cord. It would be a point of some physiological curiosity to determine the precise point at which the influence of the vagal nerve ceases, and that of the spinal nerves commence. The muscular coat of these intestines receives from the spinal cord the influence which stimulates it to action, and is dependent on the spinal cord, and not on the par-vagus, for its contractile power.

*The Portion of Intestines affected by different Portions of the Spinal Cord.*—Brachet pursues his experiment. He attempts to discover what particular portions of the spinal cord influence the different divisions of the large intestines. He makes his division between the third and fourth lumbar vertebræ, and he produces paralysis of the extremities, as anatomical facts would lead us to conclude that he must do: he produces also paralysis of the rectum, and the stercoral matters accumulate in that intestine. It is a small dog that he has operated upon—the animal eats as usual, but he evacuates nothing, and the rectum is completely distended by fæcal matter. He repeats the operation on a cat. It eats and drinks as before, but four days pass, and no fæcal matter is discharged: a large quantity is then evacuated, and more on the seventh day. The poor animal is then destroyed, and the rectum is found distended with excrement almost to bursting. Nothing, therefore, could be plainer

than the dependence of this intestine on this portion of the spinal nerve: digestion went through its usual course in the intestines above, but the rectum was become an inert tube, through which the fæces were occasionally forced, as on the fourth and seventh day, by the action of the intestines above, and the compression of the abdominal muscles.

*The Light which this throws on Disease.*—There are few diseases to which the dog is more subject than to lumbago, and that fast degenerating into paralysis. We can now understand the almost invariable connexion between lumbago and costiveness of the most obstinate nature. It is disease—suspension of power in the lumbar nerves; this is the cause of paralysis in the hinder extremities, and paralysis in the lower intestine. What are we most anxious to effect—what course of treatment do we pursue? We apply our stimulants, our charges to the loins, but we depend fully as much or more on the stimulus which we apply to the intestines. We perseveringly continue the exhibition of our injections and our stimulating but not acrimonious purgatives; we have recourse to other and mechanical means,—we take our spatula or the handle of a spoon, and we endeavour to break down the impacted mass which the rectum contains, as hard occasionally as a stone; and when we have at length broken the chain of action, when we have roused the lumbar nerves to their wonted office, or when we have so far irritated and teased the lining membrane of the rectum, that it is ready to respond to the slightest nervous influence, all at once and simultaneously, or in close succession, both parts resume their former natural state.

*Tetanus.*—In this dreadful disease of nervous erythism in all our patients, why are we so anxious to produce purgation? Not solely nor chiefly on account of the sedative effect connected with copious intestinal evacuation, but in order to break the chain of diseased action. While the dorsal and the lumbar muscles are spasmodically and fearfully contracted, the muscles of the intestinal tube share in the ultra excitation. They are supplied from the same source, and they participate in the same disturbance. If I can break the charm with regard to them—if I can relax the tension of *their* stricture, the whole of the system with which they are connected will feel the beneficial effect; and if honest purging can be but once established, the whole system begins rapidly to quiet, and from the commencement of the evacuation I date the assurance that I shall save my patient.

*Nervous Connexion.*—I pretend not to trace to you the precise nervous connexion between the dorsal and lumbar regions and larger intestines; I have seen it to a very considerable extent; and when you reflect on the numerous attachments—ligamental

attachments—of the peritoneum to the dorsal, and lumbar, and sacral portions of the spine, you can readily conceive that there will be no difficulty in conveying the spinal nervous influence to every part of them.

*The Bladder* is another viscus under the mingled influence of the voluntary and involuntary, the animal and organic systems, and its power of muscular contraction depends on nerves derived from the spinal cord. The division of the cord at its lumbar portion, by means of which the rectum of the dog and cat were paralyzed, likewise deprived the bladder of the power of contracting on its contents. The dog not only discharged no fæcal matter, but the passage of the urine was stopped, and after death the bladder was found enormously distended: it was the same with the cat. It takes place in the palsy of the hinder extremities in a dog. If he dies in consequence of the disease, the immediate cause of death is over-distention or rupture of the bladder.

*The Uterus.*—The power of conception is influenced by or depends upon, in a very considerable degree, the integrity of the spinal nervous system. In the numerous paralytic canine patients that have come under my observation, I have never observed the slightest venereal appetite, and I have often instituted very close inquiries; but I have observed, again and again, that in the bitch the period of œstrum has quickly followed the disappearance of the palsy, and the dog has been more than usually salacious, when he regained power over his lumbar muscles. I by no means, however, consider this as an infallible rule.

*Gestation*, or the growth of the foetus, is, as you may readily suppose, under the influence of another system, the ganglionic. The operations of secretion and nutrition are here concerned, and not those of organic sensation and motion. The spinal cord of a female rabbit was divided twenty-four hours after copulation. She lived twenty-three days, and on her death three well-formed foetus were found in the womb. The experiment was repeated on four guinea-pigs, and with the same result.

*Parturition.*—This is a different affair. The time of utero-gestation having passed, the fibres of the uterus begin to contract with force—with interrupted but renewed efforts, until the foetus is expelled. I relate the cruel experiments of Brachet. The labour pains were commencing in a guinea-pig: he divided the spinal marrow. The labour pains were not entirely suspended, but they continued at intervals, and feebly, during three days, when the animal died without having produced her young. He reasoned with himself, if the cerebro-spinal system is the cause of these uterine efforts, they ought to cease when

the cord is divided. If that is not the agent, the operation ought not to hinder the usual progress of parturition.

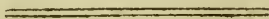
He divided the cord, in another female, between the second and third lumbar vertebræ. The pains were much diminished, but did not altogether cease, but there was a peculiarity about them; the motion of the flanks at each effort was confined to the posterior part of the lumbar region, and all was still anteriorly. The animal died on the second day. He then suspected that he had not divided the cord sufficiently forward, but that some influence from the anterior part had been communicated to the womb in a circuitous course; he therefore operated on another female between the second and third dorsal vertebræ. All was still as death, and the animal died in twelve hours.

He divided the cord in another guinea-pig at the last dorsal vertebra. The pains ceased. An hour after this operation, he prepared his voltaic pile, and established a connexion between the anterior portion of the spinal cord and the uterus. The pains returned, and in three hours she produced as many little ones; but then, worn out by her labour-pains and her other sufferings, she died, with five young ones still remaining in her.

Other guinea-pigs were tortured after parturition, with a view to see what effect would be produced on uterine hæmorrhage and the usual lochial discharges. They were not in the slightest degree changed. This was an affair of the ganglial, and not the motor organic nerves.

*The Ganglial Nerves.*—I will not detain you longer on this division of the organic nervous system; nor will I enter on the consideration of that other still more important one, the nutritive, and secretory, and absorbent system, for I have little to add to that which you will find contained in the 7th volume of *THE VETERINARIAN*. The functions of these nerves have been more attentively studied, and more universally understood. The intimate association of this system with the vascular, the secretory, and the assimilating functions, have identified it with the existence of health, the cause and progress of disease, and, indeed, with all the phenomena of life.

In the next lecture a disease will, in proper order, come before us, that will perhaps not unpleasingly illustrate the true character and distinction and working of the different symptoms;—I mean Rabies Canina.



# THE PAST AND PRESENT STATE OF VETERINARY SCIENCE.

No. V.

*By Mr. THOMAS WALTON MAYER, Jun. of Newcastle-under-Line.*

[Continued from page 144.]

IF there is any one subject of more import than another in veterinary science, and on which there is more divided opinion, and lax notions prevail, it is Education.

To “train up a child in the way he should go,” is a command which every parent, every master or mistress, every institution connected with education, is bound to obey and act up to. But it is not to morality alone that this command refers, and with regard to which this obligation is binding: it applies equally to the common and ordinary affairs of life, and to the peculiar profession or calling which the individual will have to follow.

In considering, sir, the present state of veterinary education, it is natural and right, to a certain extent, to keep the spirit of the foregoing remarks in mind. Hence we are led to expect, that now, after so many years have elapsed since the establishment of the Veterinary College, veterinary surgeons, and parents bringing up their children to the profession, should have fulfilled their parts in training them up in the way they should go—in the way in which they may become useful members of society, and ornaments to the veterinary profession. We are also led to expect, that the governors and teachers of our veterinary schools should have fulfilled their parts in the training of youth for their profession, in expanding their ideas, in correcting their crude and unfounded opinions, in urging and enabling them to keep pace with the march of scientific improvement, and in fully qualifying them for the practice of veterinary medicine.

In order to bring this subject more before you, sir, let us consider to what extent these several duties are fulfilled.

To form a correct idea of the manner in which the parents and the teachers have performed their duties, we naturally look to the characters, conduct, and attainments of our veterinary students; and here it is painful to confess that a number far too large, many of them sons of veterinary surgeons, enter the College every year destitute of the common rudiments of education, and, some of them, with corresponding habits and manners. Whence is this? It ought to strike every one, that in a science the technical terms of which are in the Latin language, in addition to common English, of which even there is too gross igno-

rance, the pupil ought to be a little prepared to understand the meaning of these terms, and, we may add, should be able to translate French : yet such is the apathy, must I say the illiberality, possessed by many members of the profession—such the narrow-minded policy displayed, that because *they* managed without such knowledge, they deny these useful acquisitions to their children, and send them to College to scramble through their difficulties as well as they can, with little more than their practical knowledge to support them. If, in addition to this, the other branches of education have all been neglected, can we look for or expect such persons to become ornaments in our profession ?

While, however, I deplore this narrow-minded policy, this debasing system adopted by many in our profession, I cannot but rejoice that a contrary and a noble course is adopted by others who have performed their duty in this respect, and whose children and pupils are likely to become useful members of our profession.

There is a part of the primary education of a veterinary surgeon which I am happy to find is becoming more regarded, viz. apprenticeships. A few years ago, among the number of students that entered the College, the majority had never been in practice before. Now it is just the contrary. When a person enters a public institution, having previously had the opportunity of seeing and assisting in the treatment of many a case, we naturally expect that he comes well grounded in the rudiments of his profession ; that the persons, whether parents or masters, under whose tuition he has been placed, have exerted themselves in pointing out, as opportunity offered, the causes, peculiar symptoms, and probable termination of each disease, as well as making him acquainted with the morbid appearances of diseased parts ;—directing also his mind to those books where he may obtain the best and most correct information on veterinary subjects. We expect likewise that they have explained (which is also their duty), to a certain extent, the anatomy and physiology of those animals to whom his attention will be directed in future practice. Do those upon whom this obligation falls, fulfil to the proper extent, or any where near it, their duty in laying the foundation of a veterinary surgeon's education ? I fear not : yet at the same time we rejoice that many may be found who do so. We at the same time leave it to the consciences of far too many persons to reconcile their having faithfully promised to teach (as it is expressed in the indentures) the art, mystery, or business, of a veterinary surgeon, and who have not fulfilled their engagements in these most important particulars ; nay, have

been heedless as to whether their pupils obtained their information or not; and while they have left them ignorant of that extent of professional knowledge which it was their duty to convey, have probably blunted and seared those moral faculties which would otherwise have enabled them to become ornaments of society.

It is easy for such men to say the College ought to make this and that change; but before they attempt to reform the course of public education, they should, and eventually must, reform the state of private professional education, properly training up the young practitioner for his professional duties.

We would call upon and earnestly entreat the guardians of those intended for our profession seriously to consider these things, in order that they may pursue that course which shall render their pupils perfectly qualified to avail themselves of all those advantages which a college course of education may afford.

Having now considered the state of our private education, let us look into the system of instruction adopted at the Veterinary College.

Does our College fulfil its duty in the training up of a veterinary student?

A young man entering College, finds that the course of instruction which is directly sanctioned by the governors, and included in the charge of twenty guineas (and which charge renders him a perpetual pupil), comprehends four essential objects—1st, Attendance on the Professor's lectures on the anatomy, physiology, and pathology of the horse; added to which (*in the advertisement*) is cattle. 2d, Hospital practice. 3d, Attendance in the forge; and, 4th, Anatomical demonstrations in the dissecting-room. He finds also (not included in this sum, but sanctioned by the governors), Lectures on Veterinary Surgery, &c. by Mr. Sewell, in the Theatre of the College; also, that the Board of Examiners especially require that he should be acquainted with the rudiments of chemistry, materia medica, and pharmacy, for the obtaining of which twelve tickets are, twice in the season, distributed by Mr. Coleman to Mr. Daniell's valuable lectures on Chemistry, at King's College, to which that number are admitted gratis. It is evident that a part of the pupils, according to this plan, would never receive any chemical instruction, were it not for the exceedingly valuable chemical lectures of Mr. Morton. It is to be regretted that the governors have not allowed that gentleman the use of the theatre; the lecture, apparatus, and class—amounting to probably upwards of forty pupils—occupying only an area of a few square yards.

[To be continued.]

## CASE OF A COW DESTROYED BY THREE PINTS OF VINEGAR.

*By Mr. PROCTOR, of Solihull.*

THE subject of this misfortune was a cow, seven years old, and in excellent condition. She belonged to a gentleman near this place, who, in the hearing of Colonel S.'s groom, signified his intention of drying her for feeding, when he very knowingly recommended the outrageous dose of two quarts of vinegar as a sure drying drink; "for (said he) it will dry all her milk up in a few hours." However, when the two quarts were prescribed, the owner of the cow said he thought three pints of his vinegar\*, which was very strong, would be quite enough; and eventually it proved sufficient for the object intended, and the destruction of life too.

The vinegar was warmed, and given to the cow at nine o'clock on the 12th inst., and she was then left. At ten o'clock the servant saw her again, and found her very ill: he communicated this to his master, who thought that she might be affected from the vinegar, but that it would be of no consequence: however, the cow grew rapidly worse, and I was sent for, but was from home.

I saw her at 5 P. M., being eight hours after the acid was given. On entering her shed, I found my patient breathing most laboriously: in this she much resembled a broken-winded horse. In fact, I for once could have fancied I saw a broken-winded cow. The respirations were not much augmented; the inspirations were sudden and short; expirations laborious, broken, spasmodic; her breathing loud, sonorous, groaning, and it could be heard at a considerable distance. She stood with her head elevated in the natural way: there was a peculiar alertness and anxiety of countenance; nostrils distended; she hoosed a great deal, and the cough was remarkably hoarse, sore, and inward, but much stronger than that of consumption. At times the tongue was protruded, and the mouth, which was often opened as wide as it could be, and with expanded nostrils, seemed not to afford a sufficient aperture for respiration. The pulse when I first saw her was quick, small, and irregular; afterwards the quality

\* The proprietor of the cow told me that he purchased the vinegar six years ago, and that the person of whom it was bought promised to supply him with some vinegar as strong as it could be made. I saw a sample of it: it was of the colour and clearness of brandy, and excessively strong on the palate.

improved, but the frequency was kept up to the last. Ears and extremities deathly cold throughout; appetite gone. At first there was an increased action of the bowels, but she did not purge; and latterly nothing passed. The urine at first was voided in small quantities, and had the exact appearance of the vinegar which she had taken. Some time after I witnessed a rather frequent and copious flow of urine, and it had a healthy appearance: her being drenched with much gruel might account for this. Moving or exciting her, by drenching her, aggravated her distress of breathing and sense of suffocation, which last symptom I should have mentioned before. Several times she lay down, when the tympanitic state of her body, which had presented itself all the time of her illness from the first six hours, would rapidly increase, with other distress, and then she would start up with a convulsive spring. On applying my ear to the trachea, I at once felt convinced that serious mischief was going on there, from the noise I heard, but which it is not very easy to describe.

*Treatment.*—Fluids and medicines were thrown into her to dilute, and neutralize, and soothe. Venesection was performed, and the blood was dark instead of the bright red of health, and often even of disease. Counter-irritants were applied to the throat and to the course of the windpipe.

*Post-mortem Examination.*—In this I was kindly assisted by a medical gentleman of this place. On laying open the larynx, trachea, and bronchial tubes, a novel appearance (to me, at least) presented itself. The epiglottis was free from lesion, but from thence through the whole course of the larynx, trachea, and bronchial tubes, a false membrane, composed of thick and firm coagulated lymph, had been formed, and in its appearance greatly resembled the true mucous membrane of respiratory passages. Removing it, the mucous membrane of the trachea, &c. was found to be highly inflamed throughout. Displacing this, the cellular tissue connecting it with the cartilaginous ring of the windpipe was greatly infiltrated with yellow serum. These changes diminished the natural calibre of the trachea and bronchial tubes to one-half, and many of the small air-passages were altogether obliterated. The œsophagus was next examined, and was found entire. The rumen was the greatest sufferer of all the digestive organs, being the first to receive this deleterious draft. Its cuticular coat was easily trituated between the thumb and finger, when the sensible coats presented a highly injected appearance, and were softened and tender, as if partly boiled. The reticulum was slightly affected; the manyplus healthy, its contents comminuted with the reticulum pulpy; the other part contained dry and hard food. The abomasum and intestines were healthy; the liver much en-

larged, particularly the large lobe, but sound: the gall-bladder was enormously distended; and, I might add, the lungs were free from lesion, excepting one portion, which had become hepatized; but this alteration of structure had nothing to do with the present affair.

*Remarks.*—Had timely treatment been employed, this cow might have been saved; but beginning, as I told her owner, in the eighth hour, seemed to me perfectly useless, when the acid drink had done its deadly work—had done all that it was capable of doing, as shewn by the train of mortal symptoms. Yet I am particularly anxious now to direct the attention of my brethren to its curious effects upon the body. I admit there was nothing more discovered than might be naturally expected in the rumen, liver, &c., but its effects upon the air-passages are the most extraordinary and striking. It may be thought by some, that, in drenching the cow with the vinegar, some passed into the trachea, and thereby produced this morbid change; but such an occurrence never took place, as the master and servants were by at the time, and no unpleasantness or uneasiness were manifested by the beast. How, then, to account for this effect upon the air-passages, in my opinion resembling croup, only in a more extended degree, and pervading their whole extent, instead of the upper part, I leave for more learned personages than myself to explain, and to them also I leave it for a term.

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## ON THE MEDICINAL AGENCY OF NITRE.

*By Mr. CUPISS, of Diss.*

*To the Editor of "THE VETERINARIAN."*

Sir,—I READ with much pleasure Mr. Morton's experiment and observations on the medicinal properties of nitre; and I waited for your May number, hoping that you would have made some remarks in answer to his questions: as you have not, I feel myself called upon to do so; but before proceeding, I will just notice his commencing sentence of "I am glad to see Mr. Cupiss among the contributors to your Journal. From him the profession has a right to expect much; nor will it, I feel assured, be disappointed. His experiments on poisonous substances will doubtless set at rest many conflicting statements, and fill up an hiatus which has long existed." Now this, I am sorry to say, is not applicable to me, though it very appropriately rebounds upon himself; for in him exists the inclination, the ability, and the opportunity, to promote the knowledge of

our profession. To the first only of these qualifications can I lay claim; to the second I have but small pretensions; and of the last am entirely deficient. It is with no small gratification that I peruse the articles in your present number on hydrocyanic acid by Mr. Hales, and tartar emetic by Mr. Gloag; also those papers and discussions on poisons, which Mr. Morton is so instrumental in bringing before the Veterinary Medical Association, and which will, doubtless, fill up that vacancy which has so long existed; and if my humble endeavours have had any effect in bringing that neglected subject before the notice of the profession, I am amply rewarded, and may now retire with satisfaction, seeing the field of investigation so ably occupied.

The inferences in which Mr. M. does not entirely coincide were the result of my observations during the experiments. I have not asserted the absolute inutility of nitre: it may be conveniently employed in simple cases, or where a placebo only is wanted; but in those requiring active measures, we cannot depend upon its efficiency, nor command its services to the extent which may be requisite. It seems that the diuretic virtues of nitre are very limited; for both in Mr. M.'s experiment and my own, the quantity of urine was far less than we might have anticipated: the increase of dose did not produce increased action. Mr. Morton observes, that if glandular structures are slightly inflamed, their function is increased, but if highly so, they cease to secrete\*; yet by our more powerful diuretics we may increase the function of the kidneys to a much greater extent than any noticed in these experiments, and this without acting upon the intestines, or producing that general irritability shewn by the frequent voiding of both dung and urine.

In reply to Mr. Morton's queries I would observe, that the inflammation which streaked the neck of the bladder was evidently recent; and I am confident that, had Mr. M. been present at the post-mortem examination, he himself would have immediately concluded that retention of urine was caused by this constriction, which I think we should not be justified in attributing to any other cause than the action of the nitre: but there are other particulars not alluded to by Mr. Morton, which might have formed an interesting subject for discussion, could I have brought it before the Veterinary Medical Association; and I very much regret that distance prevents my attendance on so useful and instructive a Society, the reports of which form a valuable part of your Journal.

\* Mr. M. will perhaps recollect that there was no inflammation of the kidneys in either of the post-mortem examinations; therefore the observation will not apply in this instance.

## ON BROKEN WIND IN FRENCH HORSES.

*By* NIMROD.

Dear Sir,—Your very interesting papers in the number for the present month, on the subject of broken wind, and in which my name and opinion are introduced, call forth a remark.

On reference to a former letter of mine, in which I allude to the paucity of broken-winded horses in France, it will be seen that it is not to the moderate rate of speed exacted from them that I alone attribute it, but to other causes besides; being well aware that thousands of English horses, thus afflicted, never go beyond the walk in their work.

I have not that letter at hand, but to the best of my recollection I reckoned the following among the causes of general soundness of wind in French horses:—1st, Their being kept all the year round in the stable, and thereby little subject to atmospheric influences. 2dly, Their bodies being generally kept in a relaxed state by bran and wheaten straw, the alterative properties of which—I mean the straw—are greater than are generally imagined.

With respect to water, it is a curious fact, that the French give it to their horses—and *ad libitum* too—just before they go to work; the effect of which is, as one journey in the *coupé* of a diligence will exhibit *to more senses than one*, a speedy discharge of the food, and, consequently, the absence of pressure on the parts affecting respiration.

Under a pressure of business attendant on a few days' visit to London, I have only time to thank yourself and the profession for the lenity shewn towards my opinions, which can have only experience for their basis; and on my return home will, with your permission, offer you a few remarks on the subject which has called forth this hasty scrawl; as also on the case of a horse which died of fat, given in a late number of THE VETERINARIAN.

In the meantime, I remain truly your's.

London, May 10, 1837.

[We have great pleasure in stating, that we have reason to hope that we shall be often favoured with communications from this interesting and excellent correspondent. How many invaluable points of practice can such a man illustrate, when inclination prompts and leisure permits!—ED.]

## ON THE CANINE DISTEMPER OF BENGAL.

*To the Editor of the India Journal of Medical and Physical Science.*

[We are indebted to the Editor of the *Lancet* for the power of inserting this interesting Essay.]

SIR,—A great deal has been said upon the diseases to which men who come into the tropics from a cold and distant latitude are subject. It has appeared on the clearest evidence that diseases in Europe, known by certain names and a certain train of symptoms, differ exceedingly from diseases which bear the same name in the tropics, and faintly shew the same symptoms : so great is the difference that at times it is hard for a young practitioner to identify them. The imported dog is no less subject to differ in ailments from the dog on his native soil. Every sportsman knows that European dogs lose their acute scent on coming into the tropics ; but few care about the more secret and malignant effects of the Bengali climate. It is, therefore, my intention to devote a few pages to the canine distemper of this country. The canine distemper of Bengal assumes some characteristic type, like the disease in Europe ; but season in this country has more power over the canine race than in Europe : for instance, the distemper here is more frequently of the lank kind, raging about the months of April and May, a period at which sheep also become affected with a species of emaciation, attended with diarrhœa, and the malady seldom fails to destroy. Goats brought down from the high countries into Bengal are also very liable to die of a disease very similar to what sheep are subject ; the symptoms are lankness, diarrhœa, great discharge of mucus from the nasal membranes, and, in the last stage, maggots in the nose. Imported dogs are very rarely affected with that kind of distemper which attacks the *pariahs* of Bengal. The latter suffer from the mange, and at the same time there is present a dry cough with equivocal symptoms of distemper. But in English dogs this scourge of the canine race seems to assail with acute power and unmanageable disease. Sometimes ulceration of the pituitary membranes occur, with profuse discharges from the nose and eyes. Sometimes with these appearances are united much cerebral congestion. The lungs are affected ; the bronchial passages are blocked up by an accumulation of thick mucus. When the nose is hot and dry, it indicates inflammatory tendency in some of the viscera. To remove obstinate costiveness croton oil is the best purgative, and may be given to the extent

of four grs. Purgative enemias are also attended with good effects, although this is rarely requisite, for the distemper of Bengal is more frequently accompanied by diarrhœa. I have seen the complaint come on in a very distressing state soon after the breeding season, which commonly lasts from the month of November to March, a period when the atmosphere is very humid and cold. Dogs, by going about the yard at night, contract the distemper in very severe form, and very often enteritis of an acute and fatal nature. It is therefore advisable to keep these animals in a warm room, allowing straw or coarse blankets. In the hottest months, when distemper of the putrid kind proves most fatal to dogs, a cool place is necessary ; but Mr. Blaine is right when he advises their being kept warm in every stage but the putrid. In animals of the canine race there is such a high degree of momentum in the circulation, that it is not easy to ascertain whether they labour under any organic inflammatory disease : none but experienced veterinarians are able to tell by the pulse the precise state of the system, so far as inflammation and strength are concerned. Now we are always at a loss, for want of symptoms, to form a proper diagnosis. A discharge from the nose very frequently attends the canine distemper of Bengal. In the very worst cases this symptom is present : whether it is an effort of nature to relieve herself, or whether it depends upon some morbid action, my experience does not enable me to decide. A spongy dryness of the nose is looked upon as a bad prognostic ; it warns us that inflammation is gathering somewhere. In enteritis and cholic it is present : a moderate moisture on the nose is nothing more than the mucus natural to the parts, and is in my opinion, a healthy symptom.

Whatever the distemper may be in England, in this country it seems to arise from other causes as well as contagion, chiefly when the subject is weak or badly fed. I am of opinion, with regard to distemper, as Dr. Moseley is to rabies in the West Indies. I think it may come on, like the latter disease, from the operations of heat and moisture in the atmosphere\*. Jackals belong to the canine genus, and I have frequently shot in the same season two or three, which seemed to suffer from distemper of a chronic nature. Blaine is doubtful about jackals or wolves being liable to distemper ; but the worthy pathologist had not opportunities enough to ascertain facts relating to this matter : had he seen half the number of jackals I have, he would think them liable to half the diseases in his catalogue. My experience enables me to say that foxes also are liable to a number of diseases in this country, for I have met mangy and emaciated ones

\* Moseley on Tropical Diseases.

very often in the jungles of India. I cannot answer for the wolf, but suspect that, with the other members of the canine tribe, he is also liable to distemper. It is to be remembered that distemper is a disease which puts on a variety of forms, and is blended with other ailments, such as enteritis, diarrhoea, and mange. Nay, there are some doubts in my mind as to the distemper being connected with the rabies, for there are many symptoms in the latter which closely resemble those in the former. One thing is certain, that distemper may come on without contagion, and that it depends more upon some organic disease or derangement in the animal functions than upon the communication of a specific virus: however, I do not deny the power of contagion to distemper. Commonly in this country the organic derangements are in the lungs, in the mucous membranes of the head, in the bowels and other viscera. I have seen a kind of distemper here which lasts for some months during the rainy and cold season, and disappears in the hot weather: it is most frequently attended with cough, pulmonary congestion, and lankness. Another type of the disease comes on in the very hottest months, chiefly in imported strong dogs; it is acute for a few days, and terminates fatally, when the victim dies in great agony, howling and tossing.

*Sulkea, April 1836.*

J. G.

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## PUERPERAL FEVER IN A COW.

*By Mr. ROBERT B. RUSH, Lopham, Norfolk.*

A cow, seven years old, and in good condition, calved on the 3d of April last. On the 5th she was found down, and without the power of rising. She had been left standing on the preceding night, and in apparent good health. The pulse was 45—the extremities cold—the breathing somewhat disturbed, and the bowels very much constipated.

My father went, and gave her half a drachm of the farina of the croton nut, a drachm of calomel, and one pint of linseed oil.

In the afternoon I saw her, and found her in precisely the same state. I gave her nine drachms of Cape aloes, an ounce of ginger, and six ounces of the sulphate of soda, in a little warm water. Her back was well rubbed with a strong stimulating embrocation, almost equal to liquid blister, from the posterior part of the sacrum to the middle of the dorsal vertebræ. This rubbing was repeated in the evening, and twice on the following

day : she was kept warm, and had as much gruel as she would drink.

On the 7th I gave her four drachms of the carbonate of ammonia with six ounces of the sulphate of soda, and an ounce of powdered aniseeds. In the afternoon she was up. Her fæces were pultaceous—she fed a little—and the countenance was brightened.

On the 8th I gave her an ounce of the sulphate of iron and two ounces of bark, and she is doing very well. I send this case for your opinion as to its treatment.

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The subject of Puerperal Fever will be debated in the Association in the course of a few weeks. Mr. Rush will then learn the opinion and practice of many of his brethren.—Y.

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## THE ŒSTRUS IN THE FRONTAL SINUSES OF THE SHEEP AT AN UNUSUALLY EARLY PERIOD.

*By Mr. T. BARTON, Threxton.*

A CASE occurred a few days since which I beg leave to communicate to you, thinking it may be interesting, as happening at this period of the year (March 27th): in the summer months it is frequent enough. A sheep produced its lamb, and the mother and the offspring were, to all appearance, quite well. On a sudden she became convulsed, and shook her head, rolling her eyes about, and turning her nose upwards, but did not rise from the ground.

The shepherd instantly bled her copiously, and she continued lying about half an hour, when she started up, ran a few yards, leaped, fell down, and died. I examined the head after death, and found eleven bots in the frontal sinuse, three of which were much smaller than the others (about one-quarter of the usual size); and the vessels of the brain quite full of blood of a very dark colour.

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## ON SCOURING IN CATTLE AND SHEEP.

*By Mr. RAWLINGS, Bristol.*

*To the President, Vice-Presidents, and Members of the Bristol Agricultural Society.*

Gentlemen,—IN the Bristol Journal of the 19th instant, I perceive an advertisement offering a reward for the *Cure* of Scouring in Cattle and Sheep. I could have written much more

satisfactorily to myself if the competitors had been called upon to state the proximate, predisposing, and exciting, &c. causes. That not being required by the advertisement, I shall proceed as though I was called in to attend a cow or sheep with the above disease.

First, I will treat of the cow :—Take gum arabic two ounces, and dissolve it in a quart of strong decoction of wormwood ; add one ounce of aromatic confection, and two drachms of gum catechu. Give this astringent drench in linseed tea, and repeat it every sixth day for three times.

After the second dose, if the cow gets no better, add two scruples of powdered opium, and from one to four drachms of prepared chalk, which I have known to have a good effect. After the first or second dose of the astringent drench, a *judicious* dose of calomel, conjoined with opium—say from ten grains of calomel to forty, and opium from ten grains to sixty, and in DESPERATE cases from ninety and even one hundred and twenty of the latter drug.

Sheep should have the same mixture prepared for them, and have a tea-spoonful given them as often as may be required.

The cow should be housed, and kept as much as *possible* on straw ; and the sheep's pasture should be changed to a high and dry situation.

I have known these medicines succeed in curing numberless cases in my own practice, when all other means have failed.

I have the honour to remain, Gentlemen,

Your's obediently,

RICHARD RAWLINGS, Senior, V.S.

Nov. 30th, 1836.

N.B.—The premium of three sovereigns was awarded to me ; and since publicity has been given to the above remedies, one of the members of the society has had his flock affected with what *he* terms the scour, and lost fifty-five before he had recourse to the medicine (conceiving in his own mind there *was no cure*, having tried every thing, as *he thought*). He tried the above remedy, which cured all the rest.

## VESICULAR CALCULUS IN A RAT.

*Communicated by Mr. HUGHES, of Shrewsbury.*

HEREWITH I have sent you at least a novel case, and one that I hope you will find worthy of insertion in your "VETERINARIAN."

Having prepared some aconitina, the active principle of the *aconitum napellus*, I wished to try its effects on the animal system. Accident brought into my way a living rat, so I gave him a small quantity, and the results were, twitching of the tendons, with convulsion and swelling of the abdomen. After death I opened him, and found the alimentary canal inflamed, and the brains and lungs gorged with blood. Perceiving that the neck of the bladder was much enlarged, I opened that viscus, and to my surprise found a calculus of immense size (compared with the rat), weighing rather more than three grains, in a crystalline state, with a surface roughed by three-sided pyramids, of a yellow colour and loose texture.

Analysis of the calculus gave, urate of ammonia, phosphate of lime, and ammoniacal phosphate of magnesia. When a small quantity was ignited strongly, it first assumed a grey and afterwards a white colour. When the white powder was gathered together, and a little hydrochloric acid added to it, there was a slight explosion, with a hissing noise attended by evolution of carbonic acid gas, and it instantaneously dissolved.

This calculus is as large as one (in proportion) in a man weighing two ounces and a quarter.

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## A CASE OF AMPUTATION OF THE PREPUCE OF A HORSE.

*Communicated by Mr. R. READ, of Crediton.*

ABOUT the middle of January 1836, a grey horse was sent to my infirmary, having a fungous excrescence on the prepuce, with a foetid and purulent discharge. On examination, I found a fungous growth springing from and encircling the prepuce, yet leaving room for the penis freely to protrude. I informed the owner that nothing short of excision would do any good; but he being anxious that other means should be tried, I ordered a solution of the oxymuriate of mercury to be applied, and which was continued, with other caustics, for seven or eight weeks without amendment.

The fungus still continuing to increase, on the 18th of May the horse was sent to me, in order that the tumour might be excised. Its appearance was then horrible. It had increased in size to an extraordinary degree; and there is no painter in the kingdom who could have made a better likeness than by comparing it to a roasted fillet of veal, through the middle of which the penis projected. The fungus so strictured the penis, as to

permit only a very small stream of urine to flow. A purulent bloody fluid was constantly discharging from it, the fœtor of which was evident at a considerable distance.

Having cast the horse, I introduced my bistoury under and between the tumour and the penis, making an incision in a direction outwards, and then proceeded to cut round the penis; but this occasioning great hæmorrhage, I altered my plan, and took a large and sharp firing-iron, and with it excised the tumour. No bleeding took place, and to my great astonishment this mode of operating did not appear to give the horse a quarter so much pain as the bistoury. The tumour, when excised, weighed five pounds and three-quarters. In about three weeks the parts healed, and the horse got fat and sleek, and continued in good condition until about the latter end of August, when the carcinomatous growth appeared to be rapidly coming on again with all its former virulence. A slow bleeding took place, which, being neglected, occasioned his death in a short time.

## A CASE OF ALMOST UNIVERSAL THORACIC AND ABDOMINAL DISEASE.

*By Mr. TAIT, of Portsoy.*

*April 27th, 1837.*—“JOHNNY,” one of the valuable hunters of A. Morison, Esq., of Mountblairy, has been amiss for some days past, with a cough, not feeding so well as usual, and voiding his urine frequently, which is high coloured, and he looks occasionally at his sides, indicative of pain there. The groom, who is a very attentive man, thought he had some disease in his kidneys. He bled him to the amount of ten quarts, and gave a laxative ball; he also applied some stimulating liniment to his loins, and put a sheep-skin upon him. To-day he is sadly emaciated, and staggers when he is moved; pulse frequent and weak, beating 78 in a minute; flanks strangely tucked up, respiration increased, and he hangs his head, discharging white matter from his nostrils. The Schneiderian and conjunctival membranes of a florid red, and the extremities cold.

*Treatment.*—Being so much reduced, he cannot stand more bleeding. Blister his sides extensively, and bandage his limbs; give twice a-day  $\mathfrak{z}\text{ij}$  of tartarized antimony in his meal and water, which he takes very freely, and coax him with a little grass, or any thing he will take.

*29th.*—He looks more lively; pulse 78; respiration about the same as when I last saw him. The blisters have done well, and

caused a considerable swelling on his chest; but he is sadly reduced in condition, and discharges a fluid from his nostrils, of the colour and consistence of milk. He eats grass and hay pretty well, and has taken a mash during the night: upon the whole he is improved, but I am afraid it will only be transitory.—Continue the medicine.

30th.—I heard that he began to heave at the flanks this forenoon, and has not fed so well as he did yesterday.

May 1st.—The respiration is accelerated; the pulse 98, small and wiry, and nearly imperceptible at the jaw; the nasal membrane livid, and in the right nostril there are two small ulcers a little above the auctus ad nasum. The conjunctival membrane is injected, and the hinder extremities cold. Rub a little more blistering ointment over the former blistered parts; continue the medicine. The grass which he eats keeps his bowels in a pul-taceous state.

3d.—He died this morning. On examining him, four hours after death, the following appearances were observed:—The bowels were healthy, the liver was enlarged, and easily torn with the finger, as was the spleen, which was congested; the kidneys were much enlarged, particularly the right, and on cutting into it there was a small quantity of pus in its pelvis. The mucous coat of the bladder was inflamed; the horse had been accustomed to void his urine much more frequently than usual. The state in which the kidneys and bladder were found sufficiently accounted for this. On opening the chest, the thorax contained about five pints of serum, with loose portions of coagulated lymph floating on its surface. The lungs—how shall I describe them—the whole of their substance was in a complete state of disorganization, abscesses were found in every part, and discharging their contents into the bronchi. The heart was considerably enlarged; the right ventricle in a state of hypertrophy, and filled with black blood; the liquor pericardii was increased; and on the surface of the heart were several spots of ecchymosis.

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## DEFENCE OF MR. CROSS AGAINST THE CHARGE OF MR. POPE.

HAVING seen in the last month's VETERINARIAN a communication from Mr. Pope, of Tarves, accusing me of "unprofessional conduct," occurring in the month of January last, I was surprised to think he should have allowed such an incident to lie so long

over,\* without shewing “unbrotherly feeling” before to me ; but as he says that there is “nothing extraordinary in the case,” I must rest contented.

In regard of the elegant description of me, as “curing all diseases,” it betrays an absolute want of sense on the part of Mr. Pope, and is not worth my regard.

I now lay before you, for insertion in your next month’s Journal, a letter which I received from the gentleman to whom the mare belonged ; and I will leave it to the discernment of the veterinary public whether the “unbrotherly feeling” existing belongs to Mr. Pope or me.

*To Mr. GEORGE CROSS, V. S., Aberdeen.*

SIR,

Mains of Dumbreck, 12th May, 1837.

Having been shewn a communication from Mr. Pope, of Tarves, in *THE VETERINARIAN* for this month, wherein you are charged with unprofessional conduct, and endeavouring to prejudice me against Mr Pope, as this is incorrect, I think it necessary to state the facts of the case. My mare having been under Mr. Pope’s treatment without success, I considered it necessary to have more advice on the matter, and sent for Mr. Chalmers, from Tarves, and requested him to get you to give him a consultation on the mare, which he promised to do ; and hence the reason of your visit.

With reference to the charge of endeavouring to prejudice me against Mr. Pope, it is quite incorrect ; and so far as my memory serves, his name was not even mentioned by you. Leaving you at liberty to make any use of this communication you think necessary,

I am, Sir,

Your’s respectfully,

ALEX. BEAN.

## GLANDERS IN THE HUMAN SUBJECT,

NOT COMMUNICATED BY ANY DISCOVERABLE BREACH OF  
SURFACE.

*By ANDREW BROWN, Esq., Surgeon, 2d Dragoon Guards.*

I AM not yet acquainted with any case but the following, where glanders has been communicated to man by other means than through incised or lacerated wounds ; that is to say, either by cutaneous absorption, by effluvium, or by the incautious applica-

\* The principal blame on this point rests with us. Mr. Pope’s letter was mislaid during several months.—Y.

tion of glandered matter to the nasal linings, in picking, scratching, or blowing that organ :—Corporal John Wells, aged 38, a tall healthy-looking man, 19 years in the corps, and never before on the doctor's list, on the 16th of April last was suddenly awakened from an unrefreshing sleep by rigors, headach, and great irritability of stomach. In hospital (at Cahir Barracks, Ireland) next morning, he complained, in addition, of severe continued pains, and stiffness in all his large joints, excessively aggravated on the slightest motion. These are the constant precursors of fatal acute glanders and farcy in the horse. On inquiry, it appeared that he had sole charge of a glandered horse for some time previous, which had been destroyed on the evening of his attack ; and that he had exerted himself much in cutting up the carcass. But these circumstances not then creating the least suspicion, his complaint was considered to be severe acute rheumatism. However, two days after admission, finding that his constitution was no longer able to bear the active treatment employed, Dr. Home and myself became truly alarmed at the unconquerable violence and novelty of the disease.

The pain, night and day, became excessive, particularly over the left shoulder, where the scapula was slightly tumefied, although not inflamed. Leeches applied over its entire surface, bled profusely for some hours, without relief ; his sufferings continued unabated. On the 24th the tumour had a dark livid colour, and was so large as to resemble the shoulder of a man recently and severely punished. Similar tumefactions, but more circumscribed, were now observed on the legs, arms, and sacrum, and one over the left temple distorted the entire face. The right nostril was contracted, and gummed with an inspissated discharge ; and he complained of constriction of the throat, with difficulty of swallowing cold liquors, but not warm ; the posterior fauces were much inflamed, and nearly of a purple hue. The suffering now baffled every effort to procure rest ; not even whilst in the warm bath had he a moment's respite from pain. His thirst was great ; his excretions, urinary and alvine, were kept natural in every respect. On the 28th, several warty pistules were observed, resembling yaws, particularly over the neck and shoulders, and inside the arms and thighs. Several of the *tumours* were now running rapidly into gangrene, wholly unimpeded by tonics and antiseptics. Nature was at length exhausted, his countenance frightfully haggard and livid, his entire surface bathed in a cold clammy sweat, and of a pale leaden hue. He held out, in partial somnolency and low muttering delirium, until the 30th, when death released him from his misery, having been twelve days under treatment.

*Autopsy 18 hours after death.*—The entire surface nearly co-

vered with black gangrenous tumours, each surrounded by numerous small vesications, which, on cutting into them, were found to be merely elevations of the cuticle, filled with a dark violet-coloured inspissated lymph. A suspicion having been recently entertained that this disease had its origin in glanders, the absorbents of each arm were first minutely examined, to their termination in axillary glands. Those vessels, however, as well as the glands, were found in their natural state; nor was there the slightest appearance of either absorbent, glandular, or cutaneous inflammation, or of any recent cicatrices, chopped or scratched fingers, or, in short, the slightest breach of integument, or abrasion of skin, by which absorption of morbid matter into the system could have been facilitated.

On removing the scalp, and thereby dividing the tumour already specified, we observed, immediately over the left superciliary ridge, a cluster of tuberculated bodies, of various sizes, imbedded in a lamina of the cellular tissue, exterior to the pericranium; and our highly talented veterinary surgeon, Mr. Woodman, unhesitatingly recognized a strong resemblance between *these*, and *those* found in the nasal linings of glandered horses after death.

The brain was much more pale and soft than ordinary, with rather a larger proportion of fluid in the ventricles; the Schneiderian membrane appeared throughout pale, thickened, and infiltrated; and in the right frontal sinus was found another cluster of well-defined, ulcerated, glanderous tubercles. The posterior fauces were highly inflamed, and of a dark purple hue; right tonsil ulcerated in patches; but the thoracic and abdominal viscera were all perfectly healthy, except that the heart was rather pale and flabby.

On removing the whole of the diseased mass from the scapula, that bone was observed nearly covered by a cluster of grey, circular tubercles, the whole composed of fine cellular tissue, enveloped in small cysts, and firmly attached to the periosteum, differing only in this respect from those found in the pericardium. (?) The tumours on the sacrum and extremities all exhibited each precisely the same crop of tubercles adhering to the periosteum underneath. All the muscles were blanched, flabby, and softened, and the cellular membrane was infiltrated with a yellow serosity.

*Lancet, May 6, 1837.*

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## ON SETONS AND CAUTERIZATION.

*By Mr. M. POTTIE, V. S. Yoker, near Glasgow.*

Mr. Editor,—I BEG to tender you my humble thanks for your last report of the Association's proceedings. I read it from beginning to end with deep interest, and without discovering that it was only an *abstract*, as you call it. But I am not altogether pleased with some of the speakers in the discussion, relating to the comparative value of setons and cauterization.

It is long since I learned that firing had been banished from the College. I understood that the patients usually sent there had no need of the operation; and that this was the only reason why it was not performed. I had heard, indeed, that setons could often do that which in other places is always done by the iron; but I did not expect to hear Mr. Sewell say, that he would abandon the operation altogether; that he would, if he could, abolish it by act of Parliament; and that "in every case in which the cautery is used the seton would be equally or more effectual."

These, I have no doubt, are Mr. Sewell's real sentiments. He thinks what he says. But it is evident that, in the debate, he stood almost alone. There is little wonder. No man who has been a few years in a stirring practice will ever abandon the iron for the seton. The mere student is easily dazzled with a new light. On the bare assertion of one man, and in opposition to the warning voice of many others, he is always ready to receive infallible novelties.

But look to the testimony of Messrs. J. and T. Turner, Sibbald, and other old practitioners, who have had extensive and varied practice. Either of the three I mention has daily opportunities of seeing diseases that never enter the College walls. It is not to be supposed that these men are blind or stupid. If their testimony be worthless, where is better to be obtained? Not in the College. There the patients are all of one kind; they are the property of wealthy individuals; the time required for treatment is not considered; and the horses never have those lamenesses so common in coaching and other hard-working horses, who are often kept at work long after the lameness is evident. In such a practice much experience is not to be obtained. There are many common diseases, and many aggravated lamenesses, which the worthy President has never seen. The seton may serve him well enough; but it will not serve us. I have had some experience of it myself—thanks to those who

are fond of novelties. I have tried it in my own practice, and cannot help regarding it as a miserable substitute for the iron.

I am sorry that Mr. Sewell should know so little about cauterization. It is evident that he is a stranger to the operation. The danger he apprehends is quite imaginary. In the hands of a skilful and attentive surgeon there is no danger; in the hands of a bungler there is some, but not much. The pain attending and following the operation must always vary in degree, according to the manner in which it is performed. But in every case there must be pain; without irritation there can be no cure; for in truth there is no remedy. Among road and canal horses there are lamenesses for which the irritation can hardly be too intense, or too lasting. Mr. Turner, I doubt not, will tell us all about these. I wish his book were ready.

The pain in some cases, only in some, must be very great, Still that must be suffered. Which is worst, the pain of curing, or the pain of working uncured? It is nonsense to say, that the seton is equally effectual, and much milder. Firing may be such that it will give no more pain than a seton, while it will do quite as much good. But this kind of firing is only for certain cases; and so far as humanity and a cure are concerned, in such cases, either the iron or the seton may be used. Mr. Sewell must not brand us for barbarians. Though he may not know it, there are men in the profession with as much skill as he has ever had opportunity of acquiring, and with quite as much humanity.

There is one other thing to be considered. Cauterization does not require the horse to be thrown, at least not above once in fifty, or it may be a hundred, applications. The seton, however, cannot be applied on the legs without casting—shoulder and stifle excepted, where they are seldom required. The cost of throwing the horse is against the operation; and the horse certainly is not likely to be the better for a tumble. It would appear, then; that even where a seton will do well enough, the cautery will do better.

Before concluding, I ought to make the customary apology for entertaining an opinion different from that of the worthy President. I will conform to any thing reasonable; and do, therefore, beg to disclaim all intentional offence, hoping that Mr. Sewell will follow my example of conciliation, and retract his unqualified censure of the cauterizers, among whom I have the honour to rank myself. He should not say, that he would like to abolish us by act of Parliament. That is the old way of enforcing obedience; and I had thought Mr. Sewell was averse to all the old practices. We are, as a body, sufficiently ready

to give applause where it has been deserved ; and Mr. Sewell has experienced this. I think we are rather too liberal in that respect. But the guilt of giving praise where it is not due shall not lie on me.

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## THE CAUTERY AND THE SETON.

*By P. VATEL, Professor of the Royal Veterinary School at Alfort.*

[It may be interesting to our readers to become acquainted with the opinions of the French veterinarians on the important subjects that have lately occupied the attention of the Veterinary Medical Association. We first give in detail Professor Vatel's account of these two operations. We make no apology for the length of it : we wished to make it complete, for it will be an account frequently referred to by the student.]

### THE CAUTERY.

THE term cautery, or cauterization, comprises the operation by means of which we destroy, through the instrumentality of the fire, or certain chemical agents, the organization or the life of certain parts ; and also that by which, through the medium of bodies actually burning, or of heated metals, we cause a certain portion of caloric to penetrate into the tissues without disorganizing them.

The first operation causes a degree of pain more or less intense, and the formation of an eschar dry or humid, which is produced by the disorganized tissues, combined or not with the caustic matter. Its secondary effects are, a determination of fluids to the part ; and, soon afterwards, an eliminatory inflammation, followed by a loss of substance, and a suppuration more or less abundant. Each of these effects of the cautery varies in intensity, according to the nature of the substance employed, and the duration of its application.

The substances which produce a rapid disorganization of the parts form two grand classes. The first comprises those which are termed the *potential cauteries*, or *simple caustics*. They destroy the texture of the organs by combining them with their own chemical elements, and forming new compounds, destitute of life, and presenting themselves under the form eschars. The *actual cauteries* act on the tissues by means of the great quantity of caloric that they contain, and which they impart with the greatest rapidity to the substances with which they are brought

into contact. These sloughs contain no foreign principles ; they are dry, solid, and formed of the organic elements of the part more or less carbonized.

The second species of cautery, having for its object the introduction into the tissues of a certain quantity of caloric, without disorganizing them, can only be practised by means of the heated iron.

It follows from this, that there are two species of cautery, the *potential* and the *actual*. The first are called *potential*, because their properties remain latent until they are placed in circumstances adapted to bring them into play, *i. e.* until they are brought into contact with a living tissue, and because they do not act until some time after their application. The actual cauteries differ from the potential, in that the principle of their activity, which is free caloric, is in full exercise the very moment that they are brought into contact with animal matter.

[Here follows a long account of the potential cauteries, which we omit.]

Veterinary surgery often prefers the employment of the fire to that of the caustic. It acts more energetically and more rapidly on the tissues endowed with life, and imparts to them a peculiar stimulus, highly useful in a great variety of circumstances. The agents which we use in this species of cauterization are of two kinds ; they are themselves either artificially penetrated with an unusual quantity of caloric, or in the process of ignition they disengage a great quantity of it. The first are the actual cauteries, properly speaking ; the second are different kinds of moxa. The actual cauteries are chiefly used in veterinary practice. It is generally allowed, at the present day, that the substances employed in the construction of these cauteries are simple recipients of caloric, the only source of their virtue ; and that iron and steel, on account of their great capacity for caloric, and the facility with which they impart it, and their infusibility, and their moderate price, supersede the use of every thing else. Steel especially, on account of its superior density and less degree of oxydability, putting out of the question the alterations to which the surface of iron is subject, ought to be preferred to every other metal. In addition to these advantages, sufficiently great, iron and steel possess another, of the utmost importance in practice, and that is, of assuming, while they are penetrated by and parting with the matter of heat, successive tints, sufficiently distinct, and which indicate with the utmost precision the quantity of caloric with which they are charged.

The cautery irons differ from each other in the form and size of the cauterizing surface alone.

The common cautery iron (*cautère cultellaire*) is somewhat in the form of a little axe, or a rude semicircle. Its back is about five lines in width, and its edge more or less sharp or rounded, according to the purpose for which it is wanted. It is employed almost exclusively in the transcurrent or superficial firing; or it is used to destroy certain osseous or fungous or cancerous tumours, and which could not be conveniently effected by a simple cutting instrument, on account of the immense hæmorrhage which would ensue.

The *conical cautery* is in the form of a truncated cone, about an inch and a quarter in length, and its base three quarters of an inch in diameter. It is almost exclusively employed in the application of the fire by puncture. It is also proper in all those cauterizations, whether superficial or deep, in which it is desirable to make a large opening into any tumour or abscess.

The *button*, or *olive* or *ovoid* cauteries are only modifications of the preceding. The *button* or *knob* iron is the roundest and shortest; the *olive* is longer, somewhat enlarged at the middle, more obtuse at its point, and narrower at its base; the *ovoid* differs from the others only in its bulk, and is of the shape of a little egg, cut across at its centre. These cauteries vary much in their size, according to that of the part to which they are to be applied. The form of the olive cautery enables it to be introduced within certain cavities, such as encysted tumours, for the purpose of cauterizing their interior surface.

The *cylindrical cautery* has its cauterizing extremity in the form of a cylinder, the length and the size of which vary according to the size of the cavity into which it designed to be introduced. It may either be straight and rectilinear or curved at its extremity, or proceed from the shank in any angle that may be required. It is often used in veterinary surgery in order to carry the fire to a very great depth, as in long and straight sinuses, the walls of which it may be necessary to stimulate or destroy.

The *funnel cautery* (*cautère à entonnoir*) is only another name for the cylindrical one, when it is introduced into the diseased part by means of a pipe or funnel.

The *nummulary cautery* (*nummulaire*), so called from its resemblance to the plant *nummularia*, or *moneywort*, a species of *Lysimachia* or *loose-strife*, consists of an oval or round plate of variable size, and slightly convex on its free surface. It is designed to cauterize exposed surfaces that are level, and of a certain extent; it also consumes fungous granulations, and burns large carious surfaces that are not very deep. It serves also for the cauterization *by approach*.

The *octagonal cautery* differs only from the preceding in its

assuming this form, and having its surface less extensive. It is used for the same purposes.

The *circular, annular, or docking (brule-queue)* iron, is used to arrest the hæmorrhage after amputation of the tail. It is in the form of a ring. The hollow receives the portion of the bone which projects after the amputation, while the iron, at a red or white heat, rests on the surrounding muscle.

The temperature of the iron depends on the object which is to be accomplished. In general, these instruments irritate more and destroy less the parts to which they are applied in proportion to the less intensity of the heat; and they irritate less and destroy more in proportion as the heat is increased. Thus the cautery iron at a grey heat is a violent irritant, and causes intense pain; while the application of the same at a white heat is far less painful. The first does not disorganize the parts, or does not destroy them long; the second destroys the organization of the tissue, and with it every vital property the moment it is employed. This should, more than it generally does, guide the veterinarian, and teach him to proportion the temperature of his cautery to the effect that he means to produce.

The mode of applying the cautery may be divided into the objective, the superficial, and the deep.

The *objective cautery*, or the cautery by gradual approach, is the one least employed. It consists in gradually approaching the diseased part with the heated iron, without actually touching it. Under its influence the tissues become reddened, and somewhat engorged by means of the flow of blood to them. A true artificial inflammation is excited, the symptoms of which gradually subside, leaving a greater development of vital energy in the part. Sometimes one cauterization does not suffice, and the parts relapse into their natural state of debility. It is then necessary to repeat the employment of the cautery, until some permanent effect is produced on the circulation and function of the part, and an evident sanitary process is set up. This mode of cauterization is applicable to certain atonic ulcers. It is used with some apparent success, when repeated four or five times in some cases of intermittent ophthalmia. It is also useful in phymatosis (tubercular disease), and other analogous chronic complaints. The recorded cases of the benefit derived from the objective cautery are not as yet very numerous, but they will be gradually multiplied. The objective cautery, by means of the rays of the sun concentrated in their passage through a lens, has no pretension superior to the common cautery. That accomplished by burning charcoal, brought by means of the forceps within a certain distance of the ulcer or part to be operated on, has this serious inconvenience,

that the coals are soon extinguished—that it is necessary frequently to renew them—and that, consequently, the operation is prolonged and less efficacious.

The *immediate superficial firing* (*transcurrente immediate*) consists in drawing the edge of the common cautery iron (*le cautère cultellaire*) over the surface of the skin. There should be a certain regularity and symmetry in the lines: they should form certain figures, which, however, after all, have little connexion with the object of the operation. All that is essential is to trace the lines in such a manner that the part which stands in most especial need of the cautery shall receive it most severely, avoiding as much as possible all complicated figures, such as circles, arcs, &c. The first lines should be traced where the cautery is most necessary; and then the appearance of the part should be rendered more pleasing or regular by tracing, more lightly, other lines which are only accessory, and which may be varied according to the surface to which they are applied. The ordinary figures are feathers, a goose's foot, a star, a medal, a Maltese cross, a half wheel, a concentric arc, or demi-ellipse, with the rays tending to the part most requiring the fire, and also in parallel lines, oblique or perpendicular, or crossing each other.

The cautery is the most powerful of all tonics: it is the excitant *par excellence*. It may also, in certain cases, be considered as capable of producing an important and salutary revulsion. When it is not applied on parts which are already in a state of super-excitation—irritated, inflamed—it is one of the most valuable veterinary therapeutic agents. Applied to weakened limbs, it causes them to recover, to a certain extent, their former vigour, their perpendicularity, and both the suppleness and the firmness of their motion. It effects a resolution of chronic and œdematous enlargements of the limbs. It opposes the return of certain pathological states produced by organic debility. It is highly serviceable after muscular distentions, sprains, luxations, &c., when the inflammation has disappeared but the lameness remains. Effusions in the articular cavities, and white swellings of the joints, often yield to its power. It removes or it arrests the progress of bony tumours, such as curb, spavin, ringbone, &c.

Some apply the iron to the point of the shoulder, the hip-joint, the stifle, the knee, and to other parts of the surface of the body; but it is especially about the legs that it is oftenest and most successfully used. The detail into which we are about to enter with respect to the application of the cautery to these parts will, with some modifications, be a sufficient guide for its use elsewhere.

1. Before we proceed to the application of the cautery, the horse should always be prepared by some days' restricted regimen, especially if he is of an irritable temper. When practicable, the operation should be performed in the morning, and while the horse is fasting. If the animal must be fired in the day-time, he should not have been permitted to eat during some hours preceding the operation.

2. Some veterinary surgeons assert that there is no necessity to cut the hair from the surface to which the iron is about to be applied ; others, and we are among the number, cut the hair as closely as possible, for the cautery may be then more accurately and effectually employed.

3. It is always advisable, before the operation is begun, to examine most carefully the limb that is to be operated upon, to consider the state in which it actually is, and to be perfectly assured of the parts that most require the fire, and on which it ought to be, in a manner, concentrated.

4. Four irons will ordinarily suffice, if the operation proceeds in the usual manner. They should not be of a white heat ; the temperature marked by an obscure cherry-red heat will usually be preferable. The best combustible for heating the irons is dry charcoal : coal covers the cautery with a thick vitreous matter, and roughens the edge.

5. Every thing being ready, the animal must be cast. An assistant places the irons in the fire, and as they become sufficiently hot, detaches the scales either with a file, or by rubbing the iron on a stone, and sends them to the operator by another assistant, who carries them as quickly as he can, offering the handle to the operator, and then waiting for the signal to get another ready. Every time that the operator receives a newly heated iron, he examines the sharp edge of it, and assures himself that it is sufficiently thick and smooth.

6. The lines ought to be lightly traced at first with an iron moderately heated, and with a view to destroy any remains of the hair, and not so deep as that they cannot be rectified, if they were not accurately drawn at first. The temperature of the second iron should be a little higher. As the colour of the instrument becomes dull, the operator calls for another, and he passes that also over the part, line by line, until the skin is sufficiently burned, and the cautery has been applied with equal severity over every part.

7. The operator should not use too heavy an iron, nor ought he to press on it ; but every thing should be done with a light hand : the instrument, however, should move slowly, and pass and repass many times over each line, in order to transmit the

proper quantity of caloric, and to cause it to penetrate sufficiently deep. If it is necessary to have a light hand during the application of the cautery generally, it is more particularly so when it passes over the skin that covers osseous tumours, or which forms the folds of many articulations, or which is the seat of old cicatrices. It is also necessary to pass the cautery more rapidly during the commencement of its application than when it has begun to cool, in order that the quantity of caloric introduced may be equal through the whole length of the line.

8. Care should likewise be taken so to dispose of the lines that they may not form too acute angles, and that, without ever crossing each other, there may be space enough between them so that the whole breadth of the bands of integument which separates them may not be acutely inflamed, and that the bands do not crack, or separate, or detach themselves from each other, and form unsightly cicatrices.

9. When it is necessary to increase the action of the caloric, and to bring the points by which it has been transmitted nearer to each other, it will be advisable to introduce the cauterization by points between the lines, and where the action of the fire is most required.

10. The number of times that the cautery iron should pass over the same line will necessarily depend on the disease, the temperament of the subject, the thickness of the skin, &c. In general, the iron has been applied sufficiently severely when the lines present a dull golden colour, and little drops of a red serosity are appearing on the surface. It is, however, of considerable importance, with regard to the effect intended to be produced, that this colour shall be the result of repeated passings of the cautery iron brought to a manageable heat.

11. The lines may take different directions, but they should always have reference to the nature of the case.

*a.* When it is thought to be necessary to cauterize the whole surface of the leg, from the knee or the hock to the coronet, as in cases of chronic engorgement of these parts, the fire may be applied in longitudinal and parallel lines; but many surgeons draw a vertical line on the centre of each side of the leg; and then, oblique lines from above below, and more or less distant from each other, according to the nature of the case, are drawn towards the anterior and posterior face of the leg, and usually at an inclination of about forty-five degrees. When the limb is engorged to double or treble its natural size, instead of a central line on each side of the face, two are made, in the interval and on either side of which these oblique lines are drawn.

*b.* In the great majority of instances the anterior face of the leg is

not affected, and therefore it is useless to apply the cautery to it. In such cases the vertical line on each side is placed more in front, and the oblique lines take a direction from it towards the back sinews. When the anterior part of the leg does participate in the engorgement, it is rarely to a sufficient degree to render the cautery necessary; and when the cautery is applied to the front of the leg, it must be much more lightly than on the posterior parts.

*c.* Exostoses and windgalls do not require the application of the iron over the whole surface of the leg, except only when in the neighbourhood of the tendons and other parts of the extremity there are severe lesions. On the simple splent, or windgall, vertical or parallel lines are drawn; or they are disposed like the barbs of a feather or the foot of a goose, but occupying the whole extent of the diseased surface.

*d.* The anterior surface of the fetlock may be covered with lines, vertical, parallel, or feathered. Its lateral faces may be cauterized as already described in the divisions *a* and *b*. The cautery should extend from the middle of the shank bone to a little below the fetlock, according to the state of the parts.

*e.* The coronet is sometimes covered with vertical or parallel lines, as in engorgement of that region. At other times the operation is confined to the anterior parts, or to one of the sides. When it is absolutely necessary to carry the cautery close to the foot, it is always advisable previously to pare the foot well out in order to supple it, and to prevent the torture that would be produced by the compression of the parts contained within the hoof.

*f.* This must also be done when the knee participates in the cauterization of the cannon. At other times it is confined to the leg alone. In this case, the disposition of the lines and which ought to cover the whole of the lateral surface of the leg, should be the same as that indicated in divisions *a*, *b*, *c*. When the cautery is applied to the anterior face of the knee, a perpendicular line should occupy the centre, and others branch obliquely from it on the either side.

*g.* The whole of the hock being enlarged, it must be covered with these oblique lines, the straight one extending from the place where the tendinous cord detaches itself from the posterior part of the leg to the middle of the lateral face of the superior part of the cannon bone. The obliquity of the tendinous cord will serve as a guide for the direction of the oblique lines. The first lateral line should not quite correspond with the first posterior one, because it would then be found in the bending of the hock.

If the hock is affected only with blood spavin, the tumour should be covered with parallel lines, a perpendicular one passing through the centre of them. The proper spavin and the curb should be covered with the goose's foot cautery.

12. The fire being applied to one side, that is to say, one of the lateral faces of the limb, the animal must be turned, the termination of the inclined lines, both before and behind, having been previously marked. It will always be best to commence with the inside of the limb, in order to prevent blenishes from the rubbing of the external face against the straw on which he lies.

13. When all four legs require the application of the cautery, it will be better to operate on only one, or at most two, at a time, and especially if the animal is heavy, and of an insensible temperament, and to permit an interval of fifteen days, at least, between the two operations. When it is decided to apply the fire to two of the legs only at the same time, they should be diagonal legs, for we thus leave a leg free at each extremity, by which the weight of the animal may be supported.

14. After this superficial cauterization, the parts that have been immediately submitted to it, as well as the neighbouring ones, are highly irritated—they have all their vital properties exalted, and the fluids are determined to them in more than usual abundance—an inflammatory engorgement is produced. The scars, yellow, narrow, straight, limited at first to the width of the edge of the iron, begin to enlarge in the course of a few days, and the inflammatory swelling and pain increase, and sometimes a considerable degree of fever is excited. After a while, the cuticle and the charred part of the cutis begin to detach themselves by little and little; and usually between the fourth and the ninth day, a superficial oozing of sero-purulent matter is established, which continues a dozen or fifteen days, and sometimes longer. This fluid, secreted from the surface of the lines, hardens, and in process of time detaches itself in the form of scabs. During the first few days after the firing, a little walking exercise will be advantageous. Some horses that have no great degree of irritability may be put to gentle work shortly after the application of the fire; but horses of much breeding or irritability must not return to their ordinary work until the scabs have dropped, and the sero-purulent secretion has ceased, and that will not be in less than a month or six weeks. The secondary effects of the firing do not often begin to be manifestly apparent until two, or three, or four months, or more, have passed.

15. As has been already stated, the pain, the moderate en-

gorgement, and the formation of eschars, are the beneficial effects of the application of the iron. If these do not appear in a very marked degree, the cautery has not been employed with sufficient severity, and we then increase the irritation of the part by the application of tincture of cantharides. If, notwithstanding the use of this auxiliary, the operation appears to have been almost ineffectual, we repeat the cautery as soon as the scabs have fallen off, or a few months after the first application of it. Some persons are of opinion that we should then apply the fire on the same lines as before; but we think that it is a preferable way so to manage the cautery that the new lines shall fall on surfaces that had not yet been touched. When the cauterization has been too severe, or the subject of it not in a good state of health, or had not been properly prepared for the operation, the inflammatory engorgement is sometimes enormous, and the discharge is profuse. Deep reservoirs of suppuration then form under some of the large eschars, which at length detach themselves, and are succeeded by lines, thick, irregular, callous, scirrhus, which are a source of lasting deformity, and materially diminish the value of the horse. Finally, when the irritation of the part is carried to such an extent, gangrene must often supervene. The antiphlogistic mode of treatment must be put into full exercise when the cautery is applied with such unnecessary severity. Bleeding, fomentation, and restricted diet, are imperiously required. If there are reservoirs of pus under some of the eschars, they must be opened, and the wounds washed with a Goulard mixture. The callosities and the scirrhus indurations should be pared down as much as possible, without going to the quick.

The *mediate superficial cautery* consists in the interposition of the rind of fresh pork between the cautery and the skin. The edge of the iron is thicker; it is heated some degrees above the standard in the usual way of firing, and the passage of the iron is considerably slower than in the common mode of firing. The pork-rind, on which only a small portion of fat is left, is cut to the shape of the part to be operated upon, and the fatty side is placed downwards: the red iron is then slowly and frequently passed over this skin. On removing the interposed substance, say the partizans of this operation, and placing the hand on the part which it covered, the degree of cauterization may be recognized, and which may be considered as carried to a sufficient extent when the surface is pretty thickly covered with small vesicles. This mode of cauterization has been much vaunted for wind-galls, splints, and curbs in young horses, and where the price of the patients would be materially diminished if there were any mark of the cautery; but we do not hesitate to say, that the

operator is never so certain with regard to the quantity of caloric which he introduces, as he is by the immediate transcurent cauterization\*.

#### DEEP FIRING.

Under certain circumstances, it is necessary to have recourse to a deeper and severer mode of applying the cautery. In cases of synovial and osseous tumours, a conical firing-iron is used, heated to the same degree as the common cautery, or somewhat higher, because it more quickly gets cold. This is applied to different parts of the skin without piercing it. The points of the cautery are multiplied according to the circumstances of the case, and these points are often used in conjunction with the superficial firing in lines, in order to make the operation somewhat more severe and effectual.

At other times, in order to penetrate into certain engorgements, cautery irons with sharper points are used, and which are freely carried through the skin. These are particularly used in indolent tumours in the neighbourhood of the jugular, and the consequence of inflammation of the vein. This mode of cautery is also used to penetrate certain indolent tumours, and to dilate fistulous openings. In the latter case, the point of the cautery should be of a white heat.

Finally, when it is necessary to produce deep disorganization of any part, or to destroy more or less completely the organic tissue of it, the common cautery iron is raised to a far greater heat than when used for superficial firing. For this kind of cauterization it is necessary to have several irons in successive readiness. Before they are applied, it is often advisable to protect the neighbouring parts from the too great action of the heat, by covering them with some thick compresses or bandages well wetted. The cautery iron acts more promptly and effectually, and with a less degree of pain, when it is brought to a white heat. The iron must not be kept in contact with the part more than

\* We are no advocates for this *mediate cautery*, and in no one instance have we had recourse to it; but we must say that Professor Vatel does not do justice to it. He very properly orders the iron to be frequently and slowly passed over the pork-rind; it will thus be brought to the melting point, and beyond which it cannot be raised. The temperature at which animal oil will boil has been clearly ascertained and above which it cannot be raised without deflagration; therefore there is the clear and definite application of a certain degree of heat. It is another question, whether this degree of heat will produce the requisite irritation and engorgement of the part; but Professor Vatel is quite wrong when he says, that the operator is not so certain with regard to the quantity of caloric which he does introduce: it is far more certain than with the variable hue of the heated iron.—Y.

eight or ten seconds, for at the expiration of that time it will have lost a great deal of its heat, especially if it has been plunged into any vascular texture: it will then only act as an excitant; the surrounding parts with which it was in contact will begin to adhere to it, and will not be separated from it without considerable force, and very annoying blenishes will be produced. If it is thought that the first incision by the iron is not sufficiently deep, a second should be applied as soon as possible, and, in some cases, a third.

When the iron is carried deeply across certain muscles, in order to reach a portion of bone affected with caries or necrosis, it will be necessary to make a previous incision, with a common scalpel, down to the bone, and then to hold the edges of the wound apart, and conduct the heated iron to the bottom by means of a canula contrived for this purpose. It should be the especial care of the operator that the iron, brought to a blood-red heat, shall not be brought into the immediate neighbourhood of any of the great vessels, or nervous trunks, or any important articulation.

This deep mode of firing causes at the moment excessive pain, but which soon calms down, and produces an exfoliation, the thickness of which depends on the degree of heat, the force with which the cautery was applied, the repetition of the application, and the soft or hard texture of the parts. The fluids, sound or diseased, which were in the cauterized part are evaporated or decomposed, the bloodvessels and the nerves are destroyed, and the sensibility and the circulation cease. The neighbouring parts are highly irritated, and immediately and powerfully contracted; but at the expiration of a few days a discharge commences, which is followed by a separation of the burned and charred parts, and a more or less abundant suppuration.

It can be easily conceived that such a mode of cauterization is indicated in envenomed wounds, the bites of rabid animals, farcy, and gangrenous and malignant affections. It is useful to arrest hæmorrhages which will not yield either to the ligature or the styptic. It is often applied to destroy portions of fungous or cancerous tumours, which cannot be got at by the bistoury; and also the secreting membrane of encysted tumours; also warts, and polypous tumours; and to remove the scirrhusities of certain fistulæ, and to excite a laudable suppuration; and, finally, to produce exfoliation in caries of the bones, the cartilages, or the ligaments.

#### THE SETON.

The seton consists of a piece of linen, or tape, or riband, or cord, or leather, introduced into the subcutaneous or other tis-

sues, in order to accomplish some therapeutical indications. It is often resorted to, in veterinary medicine, as a derivative in internal chronic diseases, and in internal acute diseases, when the intensity of the inflammation has diminished—to irritate the lining membrane, and to get rid of fistulous openings—to promote the adhesion of the walls of certain cavities which it is desirable to obliterate—to re-establish suppuration in a part where it has disappeared—to disperse chronic enlargements—and to remove certain pains and diseases, the precise seat of which cannot be determined. It is attended with decided advantage in the greater part of the cases in which it is employed. Vesicatories act only on the surface of the skin, and cannot be long continued. The seton acts on the skin and the cellular tissue at the same time, and, if it is necessary, can be carried to the greatest depth.

It may be readily conceived that, if it is employed in order to remove some pain or disease, it should be applied at a certain distance from the suffering part. This also should be the case when it is designed to allay chronic or acute inflammation any where; nevertheless it should not be too far from the seat of disease: but when we wish to establish a certain evacuation or suppuration from any part, or to close fistulous openings, or to reduce certain engorgements, or to produce adhesion of certain tissues, it must be applied to the actual seat of disease.

Setons may be placed under the skin in all parts of the body that are provided with a sufficient quantity of subcutaneous cellular tissue. They may sometimes be passed across muscular parts; they may be placed on or under the jaws, in the poll, on the side of the face and neck, in the front and on the sides of the chest, and on the inside of the thighs.

The material of the seton will vary with many circumstances. It consists ordinarily of a piece of riband or tape. In large animals it should be almost of the size of the finger, and of a proportional size in smaller animals. Its length will necessarily vary according to the place at which it is applied, and the manner in which its extremities are disposed of, in order that the most abundant suppuration may be established.

The necessary instruments are, a pair of scissors, a bistoury, and needles of various lengths; and the material of the seton should have one end brought to a point, the more easily to pass through the needle, and a knot tied at the other end, that it may not be drawn through in any of the struggles of the animal. The twitch, and the holding up of one leg, will usually place the horse under sufficient restraint, when setons are to be passed along the jaw, or the neck, or at the brisket; the side line and other restraints will be necessary in severer cases.

If it is necessary to pass a seton through the dewlap, or the integument covering the brisket of an ox, an assistant must be placed at the left side of the animal, opposite to the shoulder. He must seize the left horn with his left hand, while with the right hand he seizes the muzzle, introducing the thumb into one nostril, and the two fore-fingers into the other; and by these means depressing the head of the animal, and bringing it towards the left side. In order to introduce a seton into the inside of the thighs, the same method must be pursued as for the horse, the mule, or the ass.

Hogs and dogs must be laid on the right side, when it is necessary to pass a seton in the integument at the point of the breast, or at the poll. Horses or beasts are sometimes met with so irritable or vicious, that, in order to insert a seton in the requisite part, it is necessary to cast them, or at least to place them in a trevice. Oxen are sometimes attached to a carriage, or they are fixed by the horses to an upright post or to a tree.

Before passing a seton, it is requisite to clip the hair at the points at which it is to be introduced and brought out.

In order to pass a seton through the dewlap or over the brisket, the left fore-leg must be lifted by an assistant; a fold must then be made in the skin by means of the thumb and fore-finger of the left hand, superior to and in the centre of the brisket, if it is designed to insert one seton only; but a little on one side, if it is intended that two shall be inserted. The fold of the dewlap is then pierced by the point of a bistoury, from within outwards. The second incision, for the escape of the needle, is to be practised eight or ten inches posteriorly to the first. Some veterinarians, when they are about to insert this kind of seton, make but one incision with the bistoury, and accomplish the other by means of the needle; but this renders the operation somewhat more difficult, especially if the point of the seton needle is not somewhat sharp; and if the upper part of the needle is not larger than the tape, the pus which will be secreted will have some difficulty in escaping. These setons are never to be made across the brisket or dewlap, but in a direction from before backwards.

The incisions being made, the needle is introduced by the right hand into the superior orifice, its convexity being towards the muscular substance beneath; the left hand is at the same time employed, in order to direct the point of the needle between the skin and the muscles to the other incision. As soon as the needle has been drawn through the incision, the tape is to be withdrawn from its eye. A knot is then tied at each end of the tape, or a bit of stick is tied at the end, by which means the animal will be unable to withdraw or tear out the seton, which he will

sometimes attempt. The knot or stick must be sufficiently far from the lower orifice to permit the suppurative matter to escape, and also to allow for the engorgement that will often follow the insertion of the seton, and to permit the seton to be drawn sufficiently upwards and downwards, to allow of the application, if necessary, of some digestive or stimulating ointment.

The worthy Professor, after describing the manner of inserting setons in the dewlap of cattle, the shoulder, the jaw, and the thigh of the horse, and the poll of the dog, proceeds to speak of their intention and effect. The apparent effects of setons are immediate pain, and considerable inflammation, which are followed in due time by suppuration. All these, produced by the presence of a foreign body, sooner or later lead to certain secondary effects, and on account of which we had recourse to the seton. 1st, The cessation of local pain. 2d, The determination of certain of the circulatory fluids, whether habitually or periodically, towards the place in which the seton is inserted, as in inflammation of the conjunctiva, or the lining membrane of the ear, or in chronic bronchitis, &c. 3d, Adhesion between the walls of a cavity that it is wished to obliterate, as in certain fistulæ. 4th, The re-establishment of suppuration at a part from which it had disappeared. 5th, The resolution of chronic enlargements, by the irritation which they set up, or the discharge in the immediate neighbourhood, which must have some influence on them; or, finally, by that which is directly applied to them, when the seton passes through the substance of the tumour.

The time that the seton should be continued must depend on the nature of the disease. Chabert advises that it should not be left too long, lest by habit they should become necessary to the constitution or the part. It will always be proper to remove them when the discharge begins materially to diminish, or when the skin between the two orifices begins to ulcerate, or to be in any way disorganized; but they may be renewed afterwards in the same or in neighbouring parts, if it should be deemed expedient.

When several setons have been introduced into the same animal, they should not be all withdrawn at the same time, but one after another, beginning with those that have been longest worn, or yield the least discharge.

Setons are occasionally followed by certain accidents, and hæmorrhage, depôts of purulent matter, farcy cords, fungous growths, and malignant tumours.

*Hæmorrhage* to any considerable extent rarely follows from the division of a minute arterial or venous branch; but mostly in a kind of a sheet of blood when the seton has passed through a part that

has been the seat of some infiltration. This is arrested by introducing a pledget of tow or amadou into the course of the seton, and which may be withdrawn at the expiration of a few hours.

An *Abscess* is sometimes produced when the seton is not kept sufficiently clean. It assumes the form of a round or elongated tumour along the course of the seton. It usually contains a white and foetid purulent matter. An incision should be made into it with a bistoury, and the state of the part must be more carefully attended to. When these depôts of pus are multiplied, and the skin becomes thin, or assumes an unhealthy character, the seton must be withdrawn from that place, and inserted into another, if the nature of the malady should still require a drain of this kind.

It sometimes happens, either while the setons remain or after they have been withdrawn, and especially when they have been situated in the breast, that *indurations* or kinds of *cords* are formed, by means of the infiltration of the cellular texture or the thickening of the skin at those parts. Some veterinarians call them farcy cords, but somewhat erroneously. They will generally yield to oily frictions, or at least to frictions with mercurial ointment, the hair being previously cut away from the part.

The *fungous growths* which sometimes spring so plentifully from the openings that have been made in the skin should be cut closely off, and lightly touched with the cautery, the sores being afterwards dressed for some days with ægyptiacum and burnt alum.

Setons, according to some authors, can scarcely ever do harm. Gilbert considers them, with reference to epizootic diseases, as the principal, and perhaps the only, recourse—medicines in these cases being little more than subsidiary; nevertheless, in gastro-enteritis, attended by debility, the use of them is exceedingly dangerous. At other times it is not rare to see setons in the chest and the thighs producing malignant engorgements or ulcerations about the fourth or fifth day after their application. This is particularly the case with the dog, in whom these ulcerations sometimes occur without previous engorgement.

General bleeding must be resorted to, restricted diet, and emollient injections, especially if the fever is considerable. The immediate part should be washed with warm vinegar and water; or, if the swelling is considerable, scarifications of the part, more or less deep, must be effected. If these means do not presently succeed, the *cautery with points* must be applied to the skin and subjacent tissue. When, however, the engorgement continues to increase, and there is an evident emphysematous state of the subjacent and surrounding cellular tissue, and the pulse is intermit-

tent, &c., there is reason to fear that the animal will not be saved.

## THE ROWEL.

*The Rowel.*—By this name, and that of *the English seton*, is meant a piece of leather or felt, of a circular form, and about two-and-a-half inches in diameter for large animals, pierced in the centre by a round hole designed to permit the escape of the matter which is produced by the insertion of this extraneous body under the skin, and generally surrounded by a little tow or tape. The effects of the rowel are analogous to those of the seton; they are seldom, however, employed except in chronic affections of the respiratory organs, or obscure lamenesses. They are ordinarily placed under the chest, or at the point of the shoulder, or on the hip-joint. They are sometimes applied to the poll and the neck of dogs.

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*THE VETERINARIAN, JUNE 1, 1837.*

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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NOTHING can be of greater importance to the young student than to acquire clear and definite ideas of the nature and object of the art he is to practise. These once obtained—once deeply impressed upon his mind—he is preserved from a thousand errors fatal to his present improvement and his future reputation.

What is the aim and object of medical science? The life, the health, and the happiness of the human species. Let this be deeply engraven on his memory (we mean not to say that all other impulses and thoughts will be forgotten—that fame and fortune will be disregarded—or that he will, in the slightest degree, neglect the duties of private life), and there will be a higher character given to his professional career—a deeper insight into the nature of every case that comes before him—an intuitive perception of the means of cure, and a determination, a perseverance, and a success in the use of them which rarely falls to the lot of the presuming, the reckless, and the ignorant.

What is the aim and object of the veterinary surgeon? The life and health of his quadruped patients as connected with the

wish and the interest of his employer. A somewhat different one—a compound one—yet essentially the same: the wish and the interest of the master being substituted for the charities of private life and the claims of society. The restoration of the patient to health and usefulness! This deserves consideration, for it is a doctrine to which all of us do not, I am afraid, assent; and which certainly does not always correspond with our treatment of our quadruped servants. There is no doubt that, by Divine right, man holds supremacy over the brute, so far as his food, his convenience, his interest demand; but not to do with him according to his pleasure; not to commit any wanton outrage upon him; not to render his life a misery, and his death one of torture. In the opinion of too many, the inferior animals are considered as mere machines created for our use—they have the same feelings of pain as ourselves, but they are placed without the pale of justice—they are made for our use and purpose, and we may sacrifice them when we please to our caprice or brutality. Such is the feeling of too many persons. We will not accuse them of being barbarians; but we will tell them that they betray most woful ignorance on one of the most important subjects that could engage the attention of man. Will they tell us what code of law, human or divine, bestowed on them the right to use their dumb slave with cruelty and injustice? On what principle should there exist a plea for justice and an acknowledged right in favour of the man, and none with regard to the brute? Is common feeling a different thing in them and in us? Is there one kind of justice for men and another for brutes? But these questions shall not be pushed farther. The law of the land has begun to recognize the *jus animalium*. It will not now permit the claim of property to be urged against it. It will permit no man to use even his own with cruelty and injustice. It has entered on this glorious career of legislation, and it will pursue its course until the brute receives, in return for the benefit which he bestows on man by his services, sufficient nourishment and merciful treatment, and a death as little painful as circumstances will permit.

Well, then, the life and health of his quadruped patients are

the aim and object of the veterinary surgeon. Whatever deficiency he may find in them with regard to intelligence and moral worth, it is one of comparison only, and its effect is, partly at least, supplied by the state of dependence and helplessness in which they are found. If hitherto the veterinary surgeon has not, so generally as he ought, placed himself in this situation, and acted on these feelings and views, let it be attributed—it ought so to be—to custom—to neglect of investigation—to indolence—to defect in his early instruction—to any thing rather than to a natural want of sensibility.

Let him be supposed, at length, to acknowledge the natural, the honourable character which he ought to assume, and what will be the necessary consequences? The aim and object of the veterinary surgeon is the life and health and enjoyment of his quadruped patients. Then they find in him at once a friend and an advocate—the champion of their natural and unalienable rights. He cannot, after a moment's reflection, be insensible to the justice of their claim; the more he has to do with them, the more he is convinced of their good qualities, and, without any affectation of extraordinary humanity, any display of fine feeling (Bah!), he becomes their friend; and steadily, unobtrusively, effectively, he, to a very material degree, benefits their condition. By the force of example—by a quiet but unyielding opposition to every act of cruelty—by the seemingly unstudied yet irresistible display of the connexion between care, and comfort, and kindness, and health, and usefulness; and of disease, and loss of power, and diminution of usefulness with neglect and barbarity—how much misery may he prevent—how much animal enjoyment scatter around him, and at the same time essentially promote the interest of his employer! How much good has already been accomplished by the advice and at the suggestion of the veterinary surgeon!

Supposing that the owner, from ignorance, or carelessness, or callousness, should wish that a certain course should be pursued with regard to his horse, or a certain operation performed that would be attended by considerable torture and no equivalent benefit. These cases used often to occur. What is the duty of

the veterinary surgeon? The question has been already and satisfactorily answered. We cannot prevent many of the sufferings of our quadruped slaves. Our necessities often heavily tax them; but where necessity and manifest convenience do not demand it, we have no right to make any wanton addition to their pains, and no expressed wish of the owner can justify the surgeon in being the instrument of inflicting unnecessary pain.

But will not reasonings and feelings like these incapacitate the veterinary surgeon for the occasional discharge of his duty? Let us inquire into that. His object is the life, and usefulness, and enjoyment of his patient. In proportion as he has entered fully into this, and made it his ruling principle of action, will have been the pains he has bestowed in making himself thoroughly master of the nature and causes, and usual progress of the diseases which threaten the life, or impair the usefulness, or lessen the enjoyments of his patients; and here, as with the human practitioner, his deep-felt interest with regard to his patient will give him a thousand times clearer views than the indifferent or brutal attendant can ever have.

But when a serious operation is to be performed, which has the advantage, the humane or the reckless practitioner? You have too acute feelings for a veterinary surgeon and an operator objects some one. Now, in the first place, we object to this term, always uttered with a half sneer, "acute feelings," "fine feelings." There are no fine feelings in the case. It is a careful comparison of circumstances—the disease—the lesion—the means of relief—the probability of considerable or perfect relief, and the degree of suffering. It is a matter of calculation, founded on the acknowledgment of the principle, that we have no right to inflict unnecessary torture. If the result of the inquiry is, that the life of the animal will probably be saved, and with it the capability of enjoyment—if the after-pleasure will exceed the temporary suffering, humanity will demand the performance of that operation—and then the motives by which the humane practitioner is influenced will give him a degree of intellectual firmness and vigour, and a fertility of resources, which the rough, thoughtless, reckless man never had. The terms "fine and acute

feelings" we repudiate — it is a question of calculation, the balance struck between the suffering of the present moment and the value of prolonged life ; and he who has sufficient coolness to enter into this calculation, will never fail when put to the test. Pity without weakness, and the blending of the considerate friend with the operating surgeon, form a character above all price ; and these are qualities oftener blended together than many have supposed.

They who have attended introductory lectures on the practice of human medicine have listened with pleasure to the efforts always made to allure the young surgeon to the zealous study of his profession by a description of its connexion with human happiness or suffering. Its cause has been pleaded most powerfully and effectively, as based on the principle of humanity. Have *our* lecturers always taken this view of the case—has this been the boon or the reward which they have offered to the ardent and successful student ? This ground has not been taken so often and so effectively as it might ; nay, the expounding of the law of humanity, in the consideration of the propriety or impropriety of certain operations, has been objected to. This, surely, must be erroneous—this must almost necessarily lead to consequences which even these gentlemen would deprecate. If there can be a commendation of veterinary science and practice more than another consoling and true, it is its possible, natural, inseparable connexion with humanity. Our patients have not the intelligence and high moral worth, and importance in society, which belong to those of the human surgeon ; but we have enough to interest and excite us—to reconcile us to the neglect which we often experience, and to assure us, that if we avail ourselves of the opportunities that are placed in our power, we shall not be altogether inefficient in contributing to the great purpose of creation, the production of the greatest possible sum of enjoyment.

Y.

## Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

*A Treatise on the Influenza of Horses, shewing its Nature, Symptoms, Causes, and Treatment, &c.* By WILLIAM CHARLES SPOONER, Southampton, M.R.V.C. Longman.

IT is with unalloyed pleasure that we sit down to the review of this little work. It is on a subject now peculiarly interesting to the veterinary profession, for it treats of a disease that has lately been brought under the cognizance of us all. The treatment of it has occupied a considerable portion of our time and attention — each of us, to a greater or less degree, has formed his own peculiar views of it, and it has been made the matter of public discussion in that Association with which the improvement of our art is becoming rapidly, and perhaps permanently, connected.

Many excellent papers on the late epidemic have appeared in *THE VETERINARIAN*, and many speeches were delivered on that subject in the Association, which did honour to the individual members, and to the society to which they belonged. Some master-mind was needed to collect, to analyse, to compare, to review them, and to assign to each its proper place amidst the records of the profession. With a highly cultivated mind, with some well-improved years of practical experience — with not an atom of presumption — with a kindly feeling towards all his brethren, and with an ardent zeal for the advancement of veterinary science, Mr. Spooner has devoted himself to this task ; and he has acquitted himself in a manner most honourable to him, and satisfactory, we will venture to state, to those who are more personally concerned in the affair, and to the profession at large.

He commences with the history of the epidemic on the continent, at the beginning of the eighteenth century. He then describes, after Gibson, the one that prevailed in England about the middle of the same century, and those which spread more or less extensively from the year 1828 downwards, as recorded in different volumes of *THE VETERINARIAN* : and he concludes with a very detailed account of the discussion in the Association, and of the descriptions of the same disease which were contributed to *THE VETERINARIAN*, a little before and since this discussion. The substance of every essay and every speech is given with a spirit of impartiality and candour highly pleasing.

A slight sketch of the human influenza, as it appeared about the same time at Blandford, is added from the able pen of a relative of Mr. Spooner's. Were we to stop here, this "Treatise would be highly valuable, as presenting at one view a summary of all that is valuable in the essays and discussions on this subject."

"The pith of the debate," as Mr. Spooner well remarks, "and of the essays, was on the propriety of bloodletting and laxatives." He gives a list of the opinions of the speakers, *pro* and *con*. We add those also of the writers. The advocates of bleeding, but varying as to the quantity abstracted, were Professors Sewell and Stewart, and Messrs. Ainslie, Carlisle, Dickens, Harvey, Holmes, Jeffery, Percivall, Sibbald, C. Spooner, W. C. Spooner, Turner, Wallis, and Youatt. Those who objected altogether to bleeding were, Messrs. Field, Cheetham, Karkeek, and Titmarsh. Fifteen to four, or nearly four to one.

On the question of laxatives, for no one approved of strong purgatives, the name of Mr. Turner is inserted, inadvertently, on both sides. This error being rectified, and the names of the essayists being added, there is not the near equality of numbers which Mr. Spooner imagines. The advocates of laxative medicine were Professors Sewell and Stewart, and Messrs. Dickens, Harvey, Karkeek, Percivall, Sibbald, W. C. Spooner, Turner, Wallis, and Youatt. Those who objected to laxatives of any kind were Messrs. Ainslie, Cheetham, Field, Jeffrey, C. Spooner, and Titmarsh. Eleven to six in favour of laxatives, or nearly two to one.

Mr. Spooner proceeds to state his own opinion of the nature and treatment of the epidemic. We will give a very short abstract, referring our readers to the work itself, which we doubt not will soon find a place on their shelves.

"The most uniform symptoms that belong to this complaint are, general and considerable fever—characterised by an invariable loss of appetite, general dulness and lassitude, and almost invariable swelling and œdema of the eyelids. It is fever of a peculiar kind, having a particular disposition to debility and exhaustion. The balance of the constitution is destroyed—the arterial action being doubled, the veins are filled, but the capillaries are gorged, and the lymphatics are unable to return the superabundance of fluid: thus we have swellings of the legs and sheath, and severe determination of blood to the weakest organ, and intense inflammation, and death. It is a nervous affection, and hence the rapid prostration of strength.

"The mucous membranes are peculiarly disposed to be affected. The trachea and the bronchi in the winter months, and the ali-

mentary canal during the summer, bear the brunt of the disease; but often there is scarcely a viscus in the body that does not become diseased."

Mr. Spooner then hints at the opinion of Mr. Karkeek, that the peculiar symptoms of the epidemic are owing to the morbid state of the fluids. The action of some peculiar aerial poison in the atmosphere, disturbing the balance of the constituent ingredients of the blood, or acting by its own morbid power; and he very properly urges a more attentive analysis than has yet been made of the constituent parts of the blood in health, and under this disease. "Private practice," he observes, "will by no means afford sufficient opportunities for instituting these experiments; but he would venture to suggest them to the officers of the Veterinary College, among whom he could mention one gentleman, in particular, whose talents and chemical acquirements peculiarly qualify him for the task."

Of the causes of the disease he very commendably speaks with doubt. It is certainly to be attributed to atmospheric influence—but of what kind? Is it to the withdrawal of a portion of one of the ingredients of atmospheric air, or to the increased quantity of another, or to the presence of some peculiar poison? Such inquiries, in our present state of chemical and meteorological knowledge, he regards as altogether unsatisfactory. On the question of infection his views are truly philosophical. "For my own part," says he, "I am disposed to think that the great majority of the cases of this disease is produced by the same aerial cause; but this prejudicial state of the atmosphere may be enhanced by the prevalence of the complaint, and may derive, as it were, an accession of its poisonous qualities from the emanations of those animals that are suffering under its influence."

On the treatment of the disease he is peculiarly happy; he speaks of the *apparent* discrepancy in the opinions of some of the ablest and most enlightened practitioners. And he asks, "Can we not find out some neutral ground on which all may assemble—some general principles in which all may coincide?" He thinks that we can; for "all will acknowledge, that this disease requires a cautious system of treatment, and that the remedies, whatever they are, must be mild in their nature." He considers the remedies in order. He first discusses the question of bleeding. He confesses that in all cases that are strictly and solely febrile in their nature, and unattended with any local inflammation, the animal may recover without bleeding; but then we must bear in mind how frequently the disease is accompanied with severe inflammation of vital organs, and that in nineteen fatal cases out of twenty, if the animal does not sink from pur-

gation, he dies from inflammation. "Keeping, therefore," says he, "these circumstances in mind—knowing how rapidly inflammation may supervene—how insidiously it may creep on—in the great majority of cases, if called in sufficiently early, *I would bleed*. I would bleed according to the symptoms of the case, the state and the strength of the patient, and the effect produced by the loss of blood. No invariable quantity should be abstracted; but, with the finger on the pulse, discretion alone should direct the quantity."

Few of the readers of *THE VETERINARIAN* can imagine with what delight this passage was perused by the reviewer. These were the rules—and clothed almost in the same words—that he used to impress on his pupils—that he was the first to impress on the veterinary pupil—and among others on this, a favourite one, and of whose success in his profession he was always assured. He urges no claim. Their claims are most loudly and imperiously urged whose pretensions are light as air. His highest, his only ambition, was gradually to impress the thoughtful mind with the perception of truth, and to influence one and another of the future ornaments of his profession, until he should be felt silently, powerfully pervading a great part of his humble division of literature, humanizing, exalting, enriching it.

But we refrain. For the author's treatment of the epidemic, cautious, scientific, successful, we have great pleasure in referring to the work itself. It will be highly esteemed by the veterinary practitioner, and it will be read with interest by the medical man, and by every one that has to do with horses.

Y.

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## ARTHRITIS—GOUT—DOES IT EXIST IN QUADRUPEDS?

*By M. OLLIVIER, M.V. St. Maximin.*

A MULE, of good size and condition, three years old, and that had until lately been used in drawing a cart, being from lameness no longer able to continue its work, was brought to M. Ollivier, on the 9th of May 1824. It was not without considerable difficulty and pain that it could put its left fore foot to the ground. On examining it, M. Ollivier found a decided swelling of the flexor tendons at the pastern. He ordered the mule to be put into the stable, and, half an hour afterwards, he examined it again. There was now nearly the same enlargement of the pas-

tern of the left hind foot. The pulse was full—the Schneiderian membrane moderately red—the mouth dry—the thirst excessive—frequent trembling—an inclination to lie down, and a total loss of appetite.

On account of all these circumstances, the proprietor declared that the animal was foundered, and M. Ollivier was at first inclined to suspect the existence of inflammation of the laminæ, a disease to which he says the mule is very subject. In consequence of this he took off the shoe, and scarified the coronet, and applied cold lotions. On after and more careful examination, however, he found that, contrary to what is observed in founder, no part of the foot was either hot or tender; and this proved to him that the sub-horny tissue was not the seat of the disease. He then began to suspect an arthritic affection of considerable intensity, accompanied by fever, and producing all the symptoms that have been described. This conjecture was strengthened, a few hours afterwards, by the appearance of similar enlargement, and heat and tenderness, of the fetlock of the right fore and hind legs, and which, until this time had never exhibited any symptoms of disease. He abstracted six pounds of blood, and ordered a mash diet. The heat and the swelling considerably increasing, and especially now in the fetlock of the near fore foot, indicated the employment of fomentations and poultices.

*10th.*—The animal walks with much difficulty, evidently suffering a great deal, and the appetite is quite gone. The tenderness and swelling are greatest in the left fore leg, on which he cannot rest any weight. During the day the coronets of both fore feet became very much swelled, and hot. M. Ollivier again scarified the coronet, and now ordered cold lotions and applications, because he somewhat suspected that there was congestion of blood within the hoof. Cataplasms, in which was a considerable quantity of soot, were also tied round the feet. A decoction of borage with nitre was given as a drink, and some emollient injections, with a little nitre in them, were also thrown up.

M. Ollivier also observed that the urine was of a very deep colour, and was passed in great quantities. The animal was very restless during the night, lay down and rose up frequently, the tail was constantly quivering, and the respiration was laborious.

*11th.*—The symptoms were the same, except that the pulse was much stronger, and had risen to 120 beats in a minute. The tongue was very red, as also the membrane of the mouth, and the pituitary and conjunctival membranes. The mule was bled again to the extent of seven pounds—the sides of the chest were blistered, and rowels were inserted under the chest. The inside

of the thighs was also blistered. The drink and the injections were continued.

12th.—The respiration is more laborious—the eyes weep a great deal, and are nearly closed. The animal holds his head almost constantly pointing to the left side: the forehead is hot, and pressure on it is painful. The mucous membranes are in the same state as yesterday, and the appetite is quite gone. Sweats are breaking out on the cheeks, the poll, and other parts. Neither the setons nor the blisters have taken any effect. The animal is now almost always down, or if he gets up his plaintive breathing may be distinctly heard. Bleed to nine pounds. The blood is of a scarlet colour, with little or no serum.

At night the pulse could with difficulty be felt, and the beatings of the heart, although as frequent as before, were much more feeble. The fetlock of the left fore leg presented a very singular appearance. On the extensor tendon was an enlargement of fully the size of a hen's egg, while the flexor tendons seemed to be elongated, so that the foot rested only upon the point of the toe. An hour afterwards the animal fell heavily on the ground; he raised himself with pain, and appeared to suffer much; and then, to the great surprise of M. Ollivier, the bearing of the left fore leg was on the posterior part of the fetlock, by reason of a strange and most abnormal distention of the flexor tendons, and which he could only attribute to rupture or gangrene. He died in two hours, after the most dreadful struggles.

He was opened nine hours after death. The muscles that covered the cranium were infiltrated with black blood; it was the same with those of the pharynx and of the neck, and also of the thyroïd glands. There was a slight effusion of blood within the cranium, and also in the frontal and maxillary sinuses, and in the convolutions of the turbinated bones. A certain portion of spume mixed with the blood in these different cavities, and the effusion was much greater on the right side than on the left. This might depend, in a great measure, on the side on which the horse lay at and after his death.

The lungs were sound—the heart was apparently much augmented in bulk. The external investment of the heart exhibited large patches of ecchymosis, almost approaching to gangrene. The interior lining of the ventricles exhibited the same appearances. On the pericardium generally there were also traces of inflammation. There was a slight degree of redness on the mucous membrane of the stomach—the kidneys were enormously enlarged, and gangrenous—their substance yielded to the slightest pressure, and close to the pelvis of each were several reservoirs of purulent matter.

In the four articulations of the fetlocks a purulent serous matter was found of a grey colour, and in a very considerable quantity. The synovial capsules of these articulations presented on their inner face traces of inflammation, but less decided on the cartilage than where the points of the synovial membrane are free. The articulations of the knee exhibited the same lesions as well in the augmentation of the synovial fluid as in the inflammation of the lining membranes. The articulations of the hock were in a healthy state.

The tendo-perforans of the left fore foot presented at its posterior part, and a little above the fetlock, a black patch, an inch in length, and reaching across the tendon. There existed another on the perforatus tendon, and precisely at the corresponding situation. A little below the channel between the sessamoids, the tendon was ruptured, and each of the ends was roughened and black. Above and below the rupture were several spots of inflammation, and also about the suspensory ligament, and all the ligaments belonging to the fetlock. Every part also of the cellular substance connected with the joint partook of the inflammatory disorganization.

The pastern joint presented lesions of the same nature as those of the fetlock, and there was a separation of a quarter of an inch between the cartilaginous surfaces of these bones, and particularly at the anterior edge. There were not, however, any concretions similar to those found in the joints of the human being.

This case appears to M. Ollivier to have much resemblance to the gout of the human being, not only in the change of inflammation from part to part, but in the lesions which were afterwards found in the articulations which were the seat of disease. The infiltration of the ligaments, and of the fibrous tissues which surround the joints—the altered character of the synovia—the traces of inflammation in the synovial capsules, and the occasional caries of the cartilages—these are very striking points of resemblance. It is true, that there were not the chalky concretions which are met with in the human being, nor the return of the fit: but who can tell that, if this disease had not been attended by complications that destroyed the animal, it would not have returned, and with it the chalky concretions, and the caries of the articular cartilages?

It may, perhaps, be objected to me, that if I believed there was so much analogy between this disease and gout, I should not have had recourse to cold bathings. I reply, that the lameness came on suddenly, and, shifting from one limb to another, I was afraid that acute founder would soon follow. I soon,

however, perceived my mistake. Yet I do not think that the means of treatment I adopted had any thing to do with the repelling of the disease from the joints, and the determination of it to the heart; for I regard this malady as the concomitant of gout, and not the effect of its repulsion from the extremities. I nevertheless have sometimes thought that the cold applications aggravated the mischief.

As to the affection of the kidneys, I certainly did not recognize it during the life of the animal; for the symptoms which usually indicate it were either wanting, or exceedingly obscure, and the urine was voided with ease and in its natural quantity. As to the inflammation of the heart, I had certainly observed the violent action of that organ; but it had not very seriously fixed my attention; yet it was not at all rare to find, at least in the human being, serious lesions of it connected with rheumatic affections. Pinel, in his "*Nosographie Philosophique*," relates the case of a man that was attacked with violent rheumatism, which, after shifting from limb to limb, finally fixed itself in his knees. He made use of cold applications, which shortly drove the disease from his limbs to his chest. Oppression, syncope, palpitations of the heart ensued, and the man died. On examination after death, his heart was found pale and softened, but of an enormous size, and adherent to the pericardium. I cite this fact in order to shew that the cold baths which I employed might have contributed to augment the disease of the heart.

"We think," say the French editors, "that we should append to this case, full of interest, another, that has come under our observation, and that still more strongly illustrates the analogy there is between some affections of the articulations in the quadruped, and rheumatism and gout in the human being."

## INFLAMMATION OF THE SYNOVIAL MEMBRANES OF THE THECÆ OF TENDONS,

COMPLICATED WITH AFFECTION OF THE KIDNEYS AND  
THE HEART.

*By Professor* RENAULT.

AN entire draught horse, four years old, was sent to the Veterinary Infirmary at Alfort, on the 29th of September, 1836, on account of inflammation of the jugular vein after bleeding. There was a fistulous opening on the left side, four inches in depth, and in a direction from the wound made by the lancet towards the parotid gland. The cellular tissue about the vein was in-

durated and tender ; but the motion of the jaws, and the power of flexion and extension in the neck, were little interfered with. By means of blisters, &c., this swelling and induration in a great measure subsided ; but the matter discharged from the fistulous opening was of too ichorous a character, and there was evidently a deep-seated abscess, which was opened. The pus which it contained was thin and foetid, with some portions of fibrinous matter floating in it. Altogether, however, the animal evidently improved until the 5th of October, when towards evening he was much depressed, fed but little, pawed from time to time, and drooped his head. This was immediately attributed to fatigue, from his having been kept in a standing position, with his head secured, so as to render it impossible for him to rub his neck. On examination, some symptoms of founder were supposed to be recognized, yet he stood more firmly on his feet than is usual in that disease. It being evident, however, that he laboured under considerable fever, eight pounds of blood were taken from the saphena vein, and a stimulating embrocation was applied to the fore-arm and the thighs.

6th.—On visiting him, Professor Renault ascertained that the near fore-leg alone was affected, and that the cause of lameness was in the fetlock. He thought that the joint was sprained, without, however, being able otherwise to explain the cause of the sprain than as connected with the great fatigue which must necessarily be produced by standing eight days. Frictions of spirit of camphor and lavender were ordered, and the joint was bandaged. During the same day more fibrinous flocculi were discharged from the neck.

7th.—The lameness continued, but the febrile symptoms were much abated. The treatment continued.

8th and 9th.—The lameness diminished ; the wound in the neck was also rapidly healing. The pus had lost its ichorous appearance and foetid smell.

10th, 11th and 12th.—The lameness daily diminished, and at length disappeared.

13th and 14th.—No lameness, but there was an indolent enlargement of the fetlock, to which camphorated spirit was applied. A fibrinous clot, seemingly of the length of the fistula, escaped from the neck, and the wound soon afterwards healed.

15th.—There is lameness of the right hind-leg. The flexor tendons are the parts chiefly affected. There was no apparent cause for it, and M. Renault supposed it to be connected with rheumatism. A liniment, containing opium, was applied to the part, and this producing no effect, the camphorated spirit was again had recourse to, alternated with the opiate embrocations.

18th.—The symptoms plainly indicated inflammation of the sheaths of the tendons. That inflammation became daily more intense, and spread to all four feet, so that the horse could scarcely stand; and when, after being down, he endeavoured to get up again, he evidently suffered excruciating torture.

Symptoms of other disease, independent of that in his joints, were now clearly developed. He was continually endeavouring to void his urine, which was in small quantity, thick and yellow, and he shrunk from pressure on the loins. The beatings of the heart became violent, and the hair was detached with the slightest effort.

21st.—The suppuration from the wound ceased, and the wound itself was nearly healed.

23d.—The animal died, exhibiting every symptom of intense fever.

The digestive tube, the liver, and the spleen, presented nothing unusual.

The kidneys were very much enlarged, and their tissue, more friable than in its natural state, contained many streaks of blood scattered through their cortical substance. When they were cut and pressed, a considerable quantity of fluid resembling mingled blood and urine escaped. The ureters presented nothing remarkable; the bladder contained a pint and a-half of thick viscid red urine, holding in suspension numerous white mucous flocculi. The mucous membrane of the bladder was sound.

There was nothing remarkable about the lungs.

The envelopes of the heart were perfectly sound. The right ventricle contained a large dense fibrous clot. The left ventricle was filled with black blood, and had many ecchymoses on the lining membrane. The larger vessels of the heart presented no alteration. All that portion of the jugular vein which had been the seat of suppuration and ulceration was obliterated and cicatrized; but there were some black clots in the branches near the origin of the jugular at the parotid gland, yet there was no inflammatory lesion on the lining membranes of these venous branches.

There was considerable enlargement above the fetlock, in the direction of the tendons. The sheaths of the tendons exhibited traces of acute inflammation, and within them were adhesions in the form of bands, and other false membranes. The fluid contained within the sheaths was of the consistence of the lees of wine, somewhat grumulous, but without any unpleasant smell. The inflammation extended above the sheaths of the tendons, and the inter-tendinous and inter-muscular cellular texture was infiltrated by a yellow and gelatinous serosity. In the right hind-leg, although the infiltration extended considerably above the

hock, the synovial membrane of the sheath of the perforans was sound in the midst of the infiltrated tissues. All the articulations of the hock appeared to be healthy interiorly, but the ligaments and other tissues that surrounded them participated in the infiltration. Between the bifemoro calcaneus (the gastrocnemius externus) and the tendon of the perforans, was a small concretion, soft, yellow, easily crushed, surrounded by a yellow, gelatinous infiltration, and of an encephaloid character.

The inflammation of the fore-legs was much less acute—the synovial membranes of the bones of the carpi had not undergone any change, and it was the same with the articular capsules of the metacarpal bones. The right leg presented no lesion whatever, except a little redness of the inter-tendinous cellular tissue.

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There are some very striking analogies between this case and that related by M. Ollivier. In both, the disease followed or was the consequence of over-fatigue, produced in the mule by extra-work, and in the horse from being compelled to stand during so long a period. In both animals the attack was sudden, wandering pains in the limb causing considerable lameness, and which was united to a fever of reaction that was mistaken for founder. In both of them the pain commenced in the fetlock of the left leg, and spread to the other limbs, always attacking first, although not confined to, the fetlock. There were the same affections of the kidneys and the heart in both cases; and, lastly, in both of them the inflammation spread from the fetlock joint to the sheaths of the tendons, and then death speedily followed.

There were also several analogies in the post-mortem lesions. The sheaths of the tendons and the articulations of the fetlocks presented nearly the same appearances in both. In the one and the other the character of the synovial fluid was altered—it was thickened, coloured, and heterogeneous; and the membranes by which it was secreted presented traces of most acute inflammation. A yellow infiltration was observed about the ligaments and tendons that surrounded the articulations of the fetlock, and in the second case this infiltration extended to above the hock in the hind limbs, and into the interstices of the surrounding tendinous and ligamentous tissues. There were also, in both the mule and the horse, lesions which indicated that the kidneys had been the seat of inflammation, and the same alterations were found in the heart of each.

This coincidence of affections of the articulations of the fetlock, with others of the kidneys and the heart, appear to M. Ollivier and ourselves to have no inconsiderable resemblance to the group of symptoms which we have often observed in the human being in certain rheumatic affections, and particularly with that variety

of gout which is distinguished by the terms acute and inflammatory. If it is remembered that this affection is oftenest observed in the human being, in the articulations uniting the metacarpal and metatarsal bones with the phalanges, and that it occasionally produces intra and extra-articular morbid deposits, such as have been just described, and also lesions of the urinary organs—and if it is also considered that this affection is often confounded with certain ligamentous and tendinous rheumatic attacks, and to such an extent that it is impossible to distinguish the one from the other; and that it is particularly in these rheumatic affections, thus complicated, that we find these alterations of the heart, we can scarcely fail of acknowledging their connexion, or even their identity. These complicated musculo-tendinous rheumatisms have been designated, and properly, by the name of rheumatic gout; and it is only when thus complicated that the synovial tendinous sheaths present their most fatal morbid lesions, and that the disease occasionally becomes fatal. L. M.

[Although we cannot fully consent to the opinions of M. Ollivier and Professor Moiroud, we regard these as very interesting cases, and as presenting new and very important views of the occasional strange connexion and complication of disease, and of the unsuspected resemblance between, if not perfect identity of, maladies that present very different characters in man and the brute. We invite our correspondents to the communication of analogous cases.—Y.]

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### Miscellanea.

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SATURDAY, the sixteenth of September next, will be sold or set up for sale, at Skibbereen, a strong, staunch, steady, sound, stout, safe, sinewy, serviceable, strapping, supple, swift, smart, sprightly, spirited, sturdy, shining, sure-footed, sleek, smooth, spunky, well-skinned, sized and shaped, sorrel steed, of superlative symmetry, styled Spanker; with small star and snip, square sided, slender shoulder, sharp sighted, and steps singularly stately; free from strain, stranglers, seeling, sprain, spavin, spasms, stringhalt, sciatica, staggers, sallenders, surfeit, seams, strumous sores, scanners, scratches, splint, squint, scurf, sores, scattering, shuffling, shambling gait, or symptoms of sickness of any sort. He is neither stiff-mouthed, shabby-coated, sinew-shrunk, spur-galled, saddle-scabbed, shell-toothed, skin-gutted, short-winded, splay-footed, nor shoulder-slipped, and is sound in sword-point and stifle-joint. Has neither side-spleen, sleeping-evil, sitfast,

snaggle-teeth, sandcrack, subcutaneous sores, or shattered hoofs; nor is he sour, sulky, surly, stubborn or sullen in temper; neither sly nor skittish, slow, sluggish, or stupid. He never slips, strips, strays, stalks, stops, shakes, snivels, snuffles, snorts, stumbles, or stocks in his stall, and scarcely or seldom sweats. Has a showy, stylish switch tail or stern, and a safe set of shoes on. Can feed on stubble, sainfoin, sheet oats, straw, sedge, Scotch grass. Carries sixteen stone with surprising speed in his stroke over a six-foot sod or stone wall. His sire was the sly Sobersides, by a sister of Spindleshanks, by Sampson, a sporting son of Spanker, who won the sweepstakes and subscription plate, after sweating at Sligo. His selling price, sixty-seven pounds sixteen shillings and sixpence sterling.—*Sportsman*, Vol. i, p. 188.

#### ANCIENT AGREEMENT FOR A MATCH.

13th July, 1612.

“It is agreed on betweene Henry Throgm’ton (Throgmorton) and Thomas Throgmorton, the daye and yeare above written, that the above named are to meete together the Twesday after Michaelmas next, at Brackley Cwoorse, and ther to bringe a graye mare and a graye shorne mane nadgge, and each of them to ridde the same course upon equal wate in there own persones for x quarter of oates.—Signed Henry Throckm’ton, Thomas Throckmorton.”—*Baker’s History of Northamptonshire*.

#### A LIST OF PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS.

April 24, 1837.

##### EDINBURGH VETERINARY COLLEGE.

Mr. James Borrowman, Little France.	Mr. John M’Lean, Edinburgh.
— Alexander Dunlop, Libberton.	— James Moore, Hamilton.
— Robert Forsyth, Portobello.	— William Ormiston, Slateford.
— George W. Hay, Edinburgh.	— Robert Potts, London.
— John Lawson, Paisley.	— Cuthbert Simpson, Dunlop.
— Thomas Learmouth, Edinburgh.	— Alexander Watt, Edinburgh.
— John M’Lean, Renfrew.	— George Wilson, Bankhouse.

A prize-medal, on the score of general merit, was awarded to Mr. John Lawson, of Paisley; and the superior acquirements of Mr. George W. Hay, Mr. Thomas Learmouth, Mr. William Ormiston, Mr. Robert Potts, and Mr. Cuthbert Simpson, elicited the particular approbation of the examiners. A medal was likewise presented to Mr. James Moore for the best preparation.

May 9, 1837.

##### ROYAL VETERINARY COLLEGE, LONDON.

Mr. W. Bretherton, Liverpool.	Mr. S. Mortlock, Royston.
— W. Butler, Buckland.	— W. Richardson, Peterborough.

# THE VETERINARIAN.

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## ANIMAL PATHOLOGY.

*By Mr. YOUATT.*

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### LECTURE XII.

#### *Rabies in the Dog—Symptoms.*

WE are now approaching the most important subject in the whole range of veterinary pathology. In other cases, the comfort and the existence of our quadruped patients, and the property of our employers are involved. This is a somewhat heavy responsibility, and I trust that we duly feel it; but here the lives of our employers, and our own too, are at stake, and may be easily, and too often are, compromised. Here, too—however other portions of the chain may be overlooked or denied—we have the link which connects, most of all, our undervalued profession with that of human medicine; nay, rather, here is the circumscribed, valued spot on which, at least, we may assert our equality; and not only so, but where we have the 'vantage ground, and may shew our consciousness of it by our eagerness to acknowledge, and to make some return for those kindnesses which were rendered to us when we were struggling to emerge from ignorance and barbarism. My former partner led the way in rescuing this subject from several of the absurd and fearful errors by which it had been for many an age surrounded. For some years I have had the honour of addressing my veterinary pupils on it; but this is the first time that I have ventured to invite the medical pupil and practitioner\*. I entreat their candour. I will not designedly offend, and then I am sure they will not *be* offended if I speak freely on some points of difference between us, and where we have the weight of experience on our side. I do gratefully

\* These lectures will be in substance those that were delivered at University College, and which were thrown open to and numerous attended by the medical students of those days, and by many practitioners.

acknowledge the kindness with which we have, with exceptions rare and far between, been met in consultation on this subject; but we have now and then been encountered with coldness and ill-concealed contempt. I was once requested to examine a bitch belonging to a gentleman then and still an ornament of the Linnean Society. She had bitten two of his servants. He had consulted the then Goliath of medical literature, who told him that there was nothing the matter with the dog, and no necessity for punishing the servants. He, however, was a kind master, and wished to make assurance doubly sure, and he sent for me. The moment I saw her I said that she was rabid, and, in fact, so near the winding up of the affair, that she would not live until the morning. He urged me to come down in the evening, and in the meantime he would summon other medical friends, and there should be a consultation about the matter. It so happened that other engagements made me a little late. As I was ushered into the drawing-room, I saw ten or a dozen gentlemen. One, of portly bulk, was warming a certain nameless posterior part of his frame, and saying, "It is all nonsense that we are met about: there is nothing the matter with the bitch; but a dog-doctor has been here this morning, and he says that she is mad. I should like to see this dog-doctor." By this time I had advanced into the room, and, after telling him that this was not a reception to which the dog-doctor was accustomed, and being cheered by the kind reception of others, the consultation began; and the result of it was, that, with the one dissentient voice, it was determined that she was rabid,—that the operation on the servants was necessary,—and the parts were forthwith excised. Then came the talk about the quadruped. I affirmed that she would not be living on the noon of the following day, and prevailed on my antagonist to meet me there at a little later hour.

We met, and the bitch was produced dead enough. Made wise from the experience of the former evening, I urged him to tell me what morbid lesions would satisfy him. I told him what I expected find, but I could not bring him at all to the point. The bitch was opened. I affirmed that she died rabid;—he declared that it was no such thing, and that the servants had been uselessly punished. The difficulty was, who should decide. I started off for my old master, Joshua Brooks, whose simple, profound, inestimable lectures will never be forgotten by those who belonged to his school, and entreated him to come and decide a knotty point, the nature of which I would not tell him. He came. "Mr. Youatt has not told you, I take for granted, the nature of the question you are to decide?" "Not a word." "Then please to walk this way. Was this bitch rabid or not?"

After a pause, and due examination, “ Rabid. I have rarely seen a clearer case.” My antagonist has gone to his long home. Let the memory of his occasional rudeness and of other errors die with him. One thing, however, I must say. He was a medical examiner of veterinary pupils. This anecdote will tell how far he was qualified to sit at a board, whence the men who had the best right to appear there—veterinary practitioners—were excluded. Some of the present occupants of that board I know, and I sincerely respect them. They are honours to their own profession, and they have been kind to me ; but if any one of them will kindly favour me with a call, I will undertake to extort from him, but in perfect good humour, the confession that he is perfectly ignorant of the subject on which I would examine him ; that he would to a certainty be turned back if he was a veterinary *pupil* ; and that he is therefore utterly unfit to become a veterinary *examiner*.

Well, gentlemen ; to return from this long story, and this usurpation of undoubted rights, I owe to the medical profession a great deal too much to permit me designedly to offend ; but I owe likewise too much to my own class, and to my own profession, to withhold one particle of the truth, or what I suppose to be the truth, however contrary it may be to the opinion of some of my hearers.

*Symptoms of Rabies.*—In describing the nature and cause and treatment of this fearful disease, I will first take that animal in which it oftenest appears, and by which it is most frequently propagated, the dog. In some continental states the wolf is the rival of the dog in the work of mischief ; and one of the French medical journals states, that, between them both, at least 1500 persons die in Europe hydrophobous every year. The symptoms of rabies in the dog ! for it is only within a limited period after the infliction of the bite, and probably while the dog is alive, that we have any chance of combatting the evil. I shall have occasion to speak of and to recommend certain medicaments in certain cases ; and I confess that I have the hope, the belief, that at some, possibly not distant time, the medicine or the compound will be discovered to which even this malady will yield ; but in the present day, in the present state of medical science, our hope consists in the destruction of the bitten part, and that I need not tell you cannot be effected too soon : the time of hope may have fled ere the animal that inflicted the wound has ceased to live.

*Early Symptoms.*—What, then, are the earliest symptoms ? What a fearful subject have I to treat upon at the very beginning of my inquiry ! When does danger commence ? At

what period before the death of the dog? Some years ago a dog, naturally ferocious, bit a child at Lisson Grove. The child died on the third day, and an inquest was to be held on the body on the same evening. The coroner ordered the dog to be sent to me for examination. The animal was, contrary to his usual habits, perfectly tractable. I could do with him as I pleased. I trust that I entered fairly into the matter. I was, if I were to speak the truth, anxious to find some suspicious circumstance about him. I could not; and I was compelled to return a certificate that I could discover no cause of rabies about him; adding my wish that the dog might be consigned to me for a certain period, that I might be enabled to watch the ultimate result. The inquest took place;—the child was examined;—one of the medical attendants thought that there were some suspicious appearances about the stomach, and I believe also that there was congestion of the brain.

The dog was ordered to be sent to me;—the master begged that he might take him home for one night. He did so; and, brute-like, he hung him. The remaining part of the story will render it likely that he knew of his having been previously bitten by a rabid dog. With great difficulty, and after some sturdy threatening, we procured the carcass. There were kindly present at the examination, Drs. Conolly, D. D. Davis, and T. Thomson, of the University of London, and Mr. Pattison, Professor of Anatomy at the same institution. We examined him as carefully as we could; and from some inflammatory appearances about the glottis and the stomach, and the presence of a small portion of indigestible matter in the stomach, we were unanimously of opinion that the dog was rabid.

I do not mean to say that the child died hydrophobous, or that its death was accelerated by the nascent disease existing in the dog. There was probably some nervous affection that hastened the death of the infant; but the probability is, that he bit the child under the influence of that disease which was just beginning to develop itself; and the certainty is, that a veterinary surgeon, who had for many a year practised on the diseases of dogs, was unable to detect one symptom of rabies, although there were sufficient morbid lesions on the following day to prove beyond doubt that he was rabid. I will shew you a dog presently that I know is rabid. I have wit enough to discover the early and decisive symptoms in him, although perhaps they will not be evident to many of my auditors; and from his breed, and the reports which I have had of him, I suspect that he will be ferocious enough to-morrow.

There are three cases, and each given on good authority, of

the difficulty of recognizing the disease in its earliest stage. A child in 1813 was bitten by a dog. No one suspected any thing about the animal, for the child had taken away its food. Eight days afterwards symptoms of hydrophobia appeared in the dog. The disease was from the first sufficiently developed in him: the salivary fluid was so far vitiated and empoisoned, that he could and did communicate the disease, for the child died a little while after the dog.

A boy in Germany was bitten by a dog. Ten days afterwards that dog became rabid, and died. No one dreamed of danger with regard to the boy, but in process of time he sickened and died plainly hydrophobous.

The case of Mrs. Duff goes to the establishment of the same point. Many a day passed before there was any appearance of illness about the animal by which she had been bitten.

After all, however, this is nothing more than is the case in the human being. When the circumstances are carefully inquired into, the patient has sometimes been oppressed, and languid, and feverish, and full of fearful apprehensions, for many a day, or more than a week. The empoisonment had then ceased to be a local affair; the constitution was affected; the virus had entered into the circulation, or its impression had been made on the constitution generally.

This is a most serious consideration. Fortunately the disposition to bite rarely develops itself until the full establishment of the disease; otherwise, with all their sagacity, affection, and fidelity, it would become our bounden duty to extirpate the whole race of dogs.

On October 21st, 1813, a dog was brought to me for examination. He had vomited a very considerable quantity of coagulated blood. I happened to be particularly busy at the time, and observed nothing peculiar in his countenance or manner, but ordered some astringent sedative medicine to be given to him, saying that I would examine him again in the afternoon. In the afternoon he was brought to me. The vomiting had quite ceased. His mouth seemed to be swelled; and on examining him I found that some of his incisor teeth, both in the upper and lower jaw, had been torn out. This somewhat alarmed me, and, on inquiring of the servant, I was told that he imagined that they had had thieves about the house on the preceding night, for the dog had torn away the side of his kennel in attempting to escape. I scolded the man well for not having told me this; and then, talking of various things in order to prolong the time that I might closely watch my patient, I saw, or thought I saw, but in an exceedingly slight degree, the tracing

of the fancied path of some imaginary object. I was then truly alarmed; for I had discovered that, in the giving of the physic in the morning, the man's hand had been scratched, a youth had suffered him to lick a sore finger, and he had been observed to lick the sore ear of an infant. He was a remarkably affectionate dog, and was accustomed to this abominable and inexcusable nonsense. I insisted on detaining the dog, and gave the man a letter to his surgeon, telling him all my fears. He promptly acted on the hint; and before evening the proper means were taken with regard to them.

I watched this dog day after day. He would not eat, but he drank water, and somewhat more than I liked. The surgeon came every day to see him, and, although he behaved civilly, I could plainly see that he thought I had made a great blunder. I was not quite easy, although I could not doubt the evidence of the wandering eye, seen indeed only once, and that of the spume upon the water, although it was but little. My medical friend became very cool about the matter, until, on the 26th, the sixth day after his arrival, we both of us heard the rabid howl burst from him. He did not however die until the 30th, and then undeniably rabid. I mention this as another instance of the great difficulty there often is to determine the real nature of the case in the early stage of the disease;—a lesson of caution, and of decision too.

*Early Symptoms resumed.*—The earliest symptoms are exceedingly obscure. Sullenness—fidgettiness—continued shifting of posture. Where I have had opportunity, I have generally found these three symptoms in regular succession. The dog has for some hours retreated to his basket or his bed; there has been no disposition to bite, but he answers the call laggardly, or not at all; he is curled up, and his face is buried between his paws and his breast. He then begins to be fidgetty; he searches out new resting-places, but they do not long suit him; he tries one, and another and another, but he is dissatisfied; at length he takes again to his own bed, but he is continually shifting his posture. He begins to gaze about him as he lies in his bed: strange thoughts rise in his mind; his countenance is clouded, suspicious; he comes to one and another of the family, and he fixes on them a steadfast gaze as if he would read their very thoughts:—"I feel strangely ill. Some horrible presages pass in my mind. Have you any thing to do with it? or you? or you?" Has not a dog mind enough for this? If you have ever seen a rabid dog at the commencement of the disease, you have seen this to the very life.

In June 1830, I was desired to examine a Newfoundland dog

in Curzon Street. He had not eaten for the last twenty-four hours. The only appearance that could indicate rabies was this steadfast gaze on his young master and mistress; but it soon cleared up, and was followed by more than usually boisterous caresses, as much as to say, "No, no! You have nothing to do with it; I won't suspect you for a moment!" He then turned to me, and looked anxiously and half suspiciously at me. A physician, now living not far from that neighbourhood, happened to be present. "Well, Mr. Youatt," said he, "I am glad that you have seen this poor fellow. There is nothing the matter with him." The lady just at that moment left the room. "I hope there may not be," was my reply, "but I fear." "Fear! fear what?" "Incipient madness." "Incipient nonsense!" "Well, sir," said I, turning to the master, "you must do as you please; but my advice is, Tie this dog up: make him comfortable; I will call again to-morrow."

Dr. Elliotson, in his clinical lecture on the case of a boy who died hydrophobous a month before, in St. Thomas's Hospital, says that "there was a general anguish of the mind; he is the subject of extreme alarm and suspicion, and his countenance fully expresses it."

The next day this dog was so much himself—he ate and drank, and barked with such glee—I had given him an emetic, which perhaps had relieved his stomach from some load of indigesta—he was so perfectly himself, that I began to doubt whether my suspicions were well founded, until I saw him suddenly gaze at some imaginary object, and follow its fancied path, and snap at it. There was nothing else about him to guide my opinion, but that opinion was made up; and to the astonishment, and annoyance and anger of the owner, I desired that he might continue to be tied up, and that a stronger chain might be put upon him. The physician again came. We talked about the dog; he could comprehend the slight degree of delirium, but he could not believe that the case was so serious as I thought. However, he was a kind and good man; he seconded my request, and the dog was more securely fastened. On the third day was the brilliant eye, the continual scraping of his bed, the hiding of his food, the altered bark, and every palpable symptom of rabies; although another medical man that came in said that he was not, even then, half so mad as I was.

This peculiar delirium is an early symptom, and one that will never deceive. I once met a medical gentleman in consultation. A young man had been bitten by one of his own dogs. I found the medical gentleman there. The dog was eagerly eating a pan of sopped bread. "There is no madness there," said he. In a

moment the dog quitted the sop, and with a furious bark sprung against the wall, as if he would seize some imaginary object that he fancied was there. "And have you seen that, sir? What do you think now?" was my reply. "He saw nothing in it; the dog had heard some noise on the other side of the wall, he supposed." However, he at length consented to excise the part. I procured a poor worthless cur, got him bitten by this dog, and carried the disease from dog to dog, to the third victim; and there my experiment ended.

This kind of delirium is of frequent occurrence in the human patient. How appropriate to our present purpose, and how graphic, how horrible, is the account given by Dr. Bardsley of one of his patients! "I observed that he frequently fixed his eyes with horror and affright on some ideal object, and then, with a sudden and violent emotion, buried his head beneath the bed-clothes. The next time I saw him repeat this action, I was induced to inquire into the cause of his terror; he eagerly asked if I had not heard howlings and scratchings. On being answered in the negative, he suddenly threw himself on his knees, extending his arms in a defensive posture, and, forcibly throwing back his head and body. The muscles of the face were agitated by various spasmodic contractions; his eye-balls glared, and seemed ready to start from their sockets; and at that moment, when crying out in an agonizing tone, 'Do you see that black dog?' his countenance and attitude exhibited the most dreadful picture of complicated horror, distress, and rage, that words can describe or imagination paint."

I have again and again seen the rabid dog start up after a momentary quietude, with unmingled ferocity depicted on his countenance, and plunge with a savage howl to the end of his chain. At other times he would stop and watch the nails in the partition of the stable in which he was confined, and, fancying them to move, he would dart at them, and occasionally sadly bruise and injure himself from being no longer able to measure the distance of the object. This, I repeat, is a symptom that will never deceive; for although the human being, under cerebral affections of different kinds, is liable to strange wanderings, the delirium of the dog, intellectual as he is, is rarely or never observed unless under the influence of this disease. We will try our friend behind the screen presently.

One of Mr. Babington's patients thought that there was a cloud of flies about him. "Why do you not kill those flies?" he would cry; and then he would strike at them with his hand, and shrink under the bed-clothes, as if afraid of them.

Dr. Mease describes a ploughman, who called up his master's

family in the night, declaring that there were thieves in the house, and thieves in the stable, and then he pointed to imaginary lights passing in every direction.

There is a peculiarity about this delirium which in the human being seems to distinguish it from every other kind of mental aberration. "The patient," in Mr. Lawrence's language, "is pursued by a thousand phantoms that intrude themselves upon his mind—he holds conversation with imaginary persons—he fancies himself surrounded with difficulties, and in the greatest distress. These thoughts seem to pass through the mind with wonderful rapidity, and to keep him in a state of the greatest distress, unless he is quickly spoken to, or addressed by his name, and, then, in a moment, the charm is broken; every phantom of imagination disappears, and at once he begins to talk as calmly and as connectedly as in perfect health." So it is with the dog, whether he is watching the motes that are floating in the air, or the insects that are annoying him on the walls, or the foes that are threatening him on every side—one word recalls him in a moment. Dispersed by the magic influence of his master's voice, every object of terror disappears, and he crawls towards him as far as his chain allows, and with the same peculiar expression of attachment that used to characterize him.

Then comes a moment's pause—a moment of actual vacuity—the eye slowly closes, the head droops, and he seems as if his fore feet were giving way, and he would fall: but he springs up again—every object of terror once more surrounds him—he gazes wildly around—he snaps—he barks, and he rushes to the extent of his chain, prepared to meet his imaginary foe.

One thing more about the countenance of the dog. The expression of it is altogether changed. The kind of change is principally dependent on the previous disposition of the animal. If he was naturally of an affectionate disposition, there will, as I have already stated, be an anxious, inquiring countenance, eloquent beyond the power of resisting its influence. It is made up of doubt as to the nature of the depression of mind under which he labours, mingled with some passing doubts, and they are but passing, as to the concern which the master has in the affair; but, most of all, there is an affectionate and confiding appeal for relief. At the same time flashes of light occasionally dart from his eyes; there is some strange fancy passing through his mind, unalloyed, however, by the slightest portion of ferocity.

But the naturally savage brute, or he that has been trained to be savage—in his countenance there is, indeed, a fearful change. Sometimes the conjunctiva is highly injected; at other times scarcely affected; but the eyes have an unusually bright

and dazzling appearance ; they are like two balls of fire glaring upon you : there is a peculiar transparency of the hyaloid membrane, or injection of that of the retina. I should not desire a better test of the courage of a man than his being able to meet the fierce, fiery gaze of a large rabid dog without feeling momentarily cowed. It is a state of the eye that I have never seen except accompanying rabies ; and on this, too, you may place implicit dependence.

Dr. Bardsley speaks of this wild and sparkling appearance of the eye in a human patient ; and Mr. Turner describes an irregular expansion of the pupil in a hydrophobic patient, with an extraordinary fierceness of the whole visage.

Accompanying this is slight strabismus. Do not mistake here. I have known the young veterinary surgeon often blunder about this, and get into sad scrapes too. It is not that protrusion of the membrana nictitans over the eye which in distemper occasionally gives an appearance of squinting, but an actual distortion of the axis of the eye ; and, usually, the twitchings which gradually spread over the face, beginning around one eye, and contracting it, and giving a vibratory motion to it—curious, yet terrible to behold in the dog of large size.

And now for my friend behind the screen. He was brought to me this afternoon. From long experience in this disease I pledge myself that he is rabid ; and I think that by to-morrow he will be ferociously so. If any of you will favour me with a call to-morrow, you shall see him, and judge for yourselves whether I am imposed on. He is conscious of being in a strange place, and a little cowed by that, and see how manageable he is. Let us rest a minute. There, what is he gazing at?—neither you nor me—it is the mote which his own disordered imagination has conjured up. There, another object has started ; and now see how his eyes close and his head droops. I should want nothing more than this to convince me that this poor fellow is rabid. It is a kind of delirium which I have never seen but as connected with rabies.

I cannot shew you the peculiar brightness of the eye—the disease is not sufficiently developed ; but there is the occasional spasm of the upper lid of the left eye ; and when it ceases, or rather the constriction is confirmed, you see that the aperture is evidently smaller on that side than on the other. There is nothing more that I can shew you about him at present. That which I most wanted was, to give you a living proof of the obscurity of the symptoms of rabies in an early stage of the disease, and I am glad that I have had the opportunity. I perfectly understand some of you. You do not think that I would dare

to play with you; but there is an impression that I am wrong—that I at present labour under more aberration of mind than the dog. *Nous verrons*. Have the kindness not to rise until the mad one is safely disposed of, and let me see you to-morrow.

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[The Editor begs leave to present his readers with the interesting and laboured account of Glanders in the Human Being, given by Dr. Copland in his Dictionary of Practical Medicine. It has been well said of this invaluable work, that it displays such an extraordinary extent of reading, and such deep and comprehensive reflection, as to demand a place in the library of every medical man.

Rabies has long been a kind of common ground between the practitioners of human and veterinary medicine; and the sad experience of many past years is assigning to glanders a similar locality. In a more lax sense of the term, but a very consoling one to us, the whole extent of medical inquiry and practice is common ground; it is the application of the same grand principles, varied by difference of structure, of function, and of importance in the scale of being.

There is not a single disease in the quadruped on which the corresponding article in this Dictionary does not throw some and often very important light. Our readers will be assured of that before they have finished the perusal of this Essay on Glanders; and we will venture to say, that there will be very few veterinary surgeons, who have regard to their own respectability and the improvement of their profession, in whose library this work will not find a place.]

Y.

## GLANDERS IN THE HUMAN BEING.

*By Dr. COPLAND.*

1. DEFIN.—*Vascular injection, and chancry sores of the membrane of the nose, frontal sinus, and parts adjoining, with a profuse offensive discharge, and pustular eruptions, or tubercular and gangrenous ulcers in various parts, preceded by constitutional disorder, attended by fever of a low, malignant character, and produced by contagion.*

2. Glanders until lately was considered exclusively to belong

to the horse, the ass, and the mule. Within these few years several cases have occurred, shewing that it may be communicated to man, in either the acute or chronic form. About twelve years ago, in the course of a discussion at the Medico-Chirurgical Society, I stated that the fact of the disease having been thus communicated had been proved by cases that had occurred in Germany. The cases to which I then alluded were published in *Rust's Magazine*, for 1821. Since then cases have been observed in this country, and published by Mr. Travers, Mr. Brown, and Dr. Elliotson. It is to this last gentleman, however, that we are most indebted for a full elucidation of the subject by his able researches. The frequency of the occurrence of the disease in the human subject justifies the notice that will be taken of it in this work.

3. *Acute and chronic glanders* are contagious amongst the animals just mentioned; but from the facts adduced by Mr. Coleman, Dr. Ashburner, and Dr. Elliotson, it evidently appears that the disease may be generated anew when horses are shut up in a confined space for a long time, as on board transports. The characteristic symptoms of the disease in its acute form in the horse are, intense inflammation of the pituitary membrane, attended by erosions which soon pass into chancre-like sores; swelling of the lips and nose; rapid extension of the ulceration, giving rise to a purulent and disagreeable discharge, which often passes to a purplish, or bloody and horribly foetid sanies; subsequently gangrene of the nasal membrane, with increased discharge, sometimes with slight hæmorrhage; swelling and pain of the sublingual glands; inflammation of the conjunctiva and nasal eyelid, quickly passing into a livid and swollen state, with an offensive sanious discharge; and fever of a putro-adyynamic or malignant character. As the local changes extend to the adjoining parts, respiration becomes laborious, and the superficial vessels congested, the animal dying in a few days, or after a longer or shorter interval. If the disease is protracted, the symptoms sometimes relax; but the state of the pituitary membrane, and the character of the discharge, shew that it has degenerated into a chronic form. Pustules may also appear in the progress of glanders, with gangrene of the external parts of the face, and tumours, with swelling of the extremities: the disease being thus associated with farcy, which is only a modification of it.

4. The *farcy glanders* generally appear in the form of small tumours about the legs, lips, face, neck, or other parts of the body: these tumours vary in size, and in the rapidity of their progress to ulceration. They sometimes create little inconve-

nience, particularly in a chronic state ; but at other times they are large, painful, numerous, and rapid in their course. They are at first hard, but soon become soft, burst, and degenerate into foul ulcers, with abrupt edges, and of a pale glossy appearance. Lines of communication are generally observed between these tumours or ulcers, particularly when seated on the insides of the limbs : these lines are inflamed and enlarged absorbents.

5.—I. DESCRIPTION OF GLANDERS IN THE HUMAN SUBJECT.—Dr. Elliotson remarks, that glanders may appear in the human subject in different forms :—1st, In that of *simple acute glanders* ; the disease attacking the nasal cavities and adjoining parts. 2d, In that of *acute farcy glanders* ; the malady appearing in various parts in the form of small tumours, giving rise to foul ulcers, suppuration, &c. 3d, These varieties may exist separately, or they may be both produced at the same time, or the one may precede the other. 4th, Each of them may also occur in a *chronic form*, and in this form, also, may exist separately or be conjoined. That the acute true glanders and the farcy glanders are the same disease is proved by the fact, that the matter deposited in the tumours characterizing the latter, or that coming from the nostrils in the former, gives rise to either of these varieties, or to both conjoined ; or, in other words, that simple acute glanders may proceed from the matter of farcy, or from its own discharge, and that farcy glanders may arise from the discharge from the nostrils in simple acute glanders.

6.—i. *Simple acute glanders* appears to commence with rigors, headache, irritability of stomach, depression of spirits, prostration of strength, stiffness and severe constant pain of the joints, aggravated by motion, and great thirst. The patient, moreover, complains of much heat about the nasal organ and windpipe, accompanied by a copious viscid discharge. The nose and surrounding parts become swollen, hot, excoriated, and of a bright red or livid colour ; one or both eyes are inflamed, or completely closed ; a profuse tenacious mucus, at first of a deep yellow, but afterwards of a dark sanious appearance, exudes from one or both nostrils, sometimes, also, from the eyes ; and several hard phlyzaceous pustules appear on the nose and adjacent parts, and on the neck, trunk, arms, thighs, and legs. The temperature of the skin is increased, the pulse is remarkably frequent, soft, and weak or undulating ; the respiration rapid, weak, and shallow ; the tongue dry, rough, and brownish red ; thirst is unquenchable ; the stools are watery, or slimy and offensive ; the voice is weak, and the mind incoherent or wandering. Copious offensive sweats, a livid or gangrened state of the nose or of adjoining parts, delirium, tremors, and restlessness, are also observed ;

followed by sinking of all the vital powers, disappearance of the pulse, and death within a very few days: the fœtor from the discharges, and from the whole body, towards the close of the disease, being insupportable.

7. *Upon inspection post-mortem*, the morbid appearances, especially those which are external, are greater on one side than on the other. The lungs are engorged with dark fluid blood; the bronchi are livid, congested, and partially filled with a dark frothy mucus; the nostrils and frontal sinuses contain a glutinous matter of a brownish colour, and the lining membrane is studded with ulcerated white tubercles or granules; irregular ulcers, or white circular chancres, sometimes also exist in the upper part of the air-passages; purulent deposits are occasionally found in some of the internal viscera; and the mucous surface of the digestive canal is softened and discoloured at various points. White tubercular formations, resembling those found in the membrane of the nose, sometimes also exist in the mucous membrane of the large bowels.

8.—ii. *Acute Farcy Glanders* seems to commence with severe pain in the joints and limbs, and with other symptoms attending the invasion of the other variety. Small tumours arise in different parts of the body, but are more numerous on one side than on the other, and have a glossy red appearance, which soon changes to a dark brown. They also affect the head, or even the face, and chiefly on one side. They are painful, soon crack on the surface, and exude a thin acrid sanies: they vary in size, and are generally accompanied by phlyzaceous ulcers in different parts of the body. Perspiration is free, copious, and fœtid; and the stools are watery, offensive, and otherwise morbid. The fauces are injected, and of purplish hue; thirst is great; the tongue foul, loaded, and dark coloured; the pulse quick and easily compressed; afterwards small, and scarcely perceptible; and the other symptoms attending a fatal termination soon afterwards appear as in the preceding form. On *inspection after death* the tumours are found deeply seated. On removing the gangrenous integument covering them, a layer of brown glutinous matter is seen covering small white tubercles, having the same appearances as those found in the frontal sinuses, and nasal cavities, in acute simple glanders. These tubercles on the forehead or scalp are generally connected with the pericranium; but on the limbs with the fasciæ. In some cases, on dividing the larger livid or gangrenous tumours, down to the bone, the muscles appear decomposed, are of a dark colour, exhale a peculiar fœtid odour, and contain specks of a purulent matter, as it were, infiltrated through their substance. Underneath these muscles

clusters of circular grey tubercles are found, firmly attached to the periosteum, and resembling those that are more superficial, as in the pericranium, &c. The muscles generally, even those remote from the tumours, are blanched, flabby, or softened, and the cellular tissue is infiltrated with a yellow serum. The Schneiderian membrane, frontal sinuses, and parts adjoining, are sometimes thickened, or studded with white tubercles. The blood is dark, fluid, and decomposed; and the heart flabby, and pale.

9. When *acute farcy* is conjoined with *acute glanders*, the affection of the nares and respiratory organs, the phlyzaceous pustules around the nose and mouth, and the consequent foetid sanious discharge, and disorganization, are associated with the foregoing phenomena; but the constitutional symptoms are not thereby otherwise changed, than in being aggravated, or rendered more malignant, or more rapid in their progress to dissolution. In such cases the morbid appearance of the nares, fauces, and respiratory surfaces attending the acute glanders, are superadded to those characterising acute farcy.

10. iii. *The Chronic Forms of Glanders*.—Simple chronic glanders is confined chiefly to one nostril, and is characterised by a glutinous and very offensive discharge, the fœtor being peculiar, and remarkably disagreeable. There are itching, with a constant desire to blow the nose, and a sensation of stuffing. In the slightest state of the disease, these may be the principal symptoms; but, in a more advanced stage, or in severer cases, there are pain between the eyes and down the nose, with suffusion of the eyes, and ulceration of the Schneiderian membrane, the discharge being copious, puriform, and sanious. These symptoms are usually preceded by shiverings, giddiness, and by weakness and pains of the limbs; and are followed by more or less constitutional disturbance. As the disease proceeds, purulent collections form in different parts. There are, moreover, loss of appetite, nausea, swimming or pains of the head, occasional wanderings of the mind, pains in the back and limbs, thick, discoloured, or foetid urine, and slimy or otherwise morbid evacuations. From this state the patient may slowly recover, after an indefinite period, or may sink gradually, from prostration of all the vital powers, with appearances of contamination of the circulating and secreted fluids.

11. *Chronic farcy glanders* are generally preceded and accompanied by chills or rigors, and aching pains through the body and limbs, resembling rheumatism. Tumours gradually form about the face, trunk, and limbs; these break, and give rise to an unhealthy discharge; and are attended and followed by

disease of the absorbents and glands, or by purulent collections in the joints, or in various parts of the body. The disease may commence in this manner, and thus terminate ; or it may pass into the state of chronic glanders, or, in other words, the affection of the respiratory passages characterising simple glanders may be superadded ; or it may commence in this latter form, and be followed by the symptoms more especially marking the chronic form of farcy. In either case the matter produces, as is shewn by the experiments of Mr. Coleman and others, acute glanders or farcy indifferently.

12. iv. The *Nature of this disease* may be inferred from the history here given of it. It is evidently the result of a specific morbid matter, contaminating the surfaces and parts to which it is applied, affecting the organic functions, and giving rise to the changes characteristic of it. The state of the blood has not been sufficiently attended to in the history of the cases which have been put upon record. In several of those that occurred in Germany, the blood taken at an early period of the disease appears to be cupped or buffed ; but it afterwards seemed deficient as to crasis, or partially dissolved, and very dark. In the variety of farcy, the absorbents as well as the glands appear to much affected, probably owing to the passage of morbid matter along them ; but there is much yet to learn as to the history of the disease, and the lesions which it occasions, and still more as to its treatment.

13. v. The *prognosis* of the acute varieties of glanders is extremely unfavourable ; all the cases yet observed in the human subject having terminated fatally. The chronic states of the malady seem not less dangerous. Two or three of these, which have been recorded, appear to have recovered. In one of those mentioned by Mr. Travers, the patient was cured by means, one of the principal effects of which was to produce frequent vomiting. Dr. Elliotson remarks, in his last paper on this disease, that its occurrence in the human subject is by no means of extreme rarity ; and that since the publication of his former paper, upwards of a dozen cases have been mentioned to him by medical men.

14. II. TREATMENT.—Our knowledge of the treatment of this malady has not been much advanced by the experience we have hitherto had of it in the human subject. The *prophylactic means* are, however, made sufficiently evident by the recognition of its *cause*. There can be no doubt that it is communicated to man only by contact of the morbid matter proceeding from another person or animal suffering from it ; and it would appear that the infection is most certainly produced by this matter being

brought in contact with an abraded or punctured surface. Whether or not it is capable of producing the disease by being applied to the unabraded mucous surface, or by merely contaminating the air breathed by the unaffected, is certainly not proved as respects the human subject, although there are a few facts which seem to favour the affirmative conclusion. As regards, however, the horse and ass, there can be no doubt of the frequency of this mode of infection; and, indeed, of the possibility of the disease being generated *de novo*, when circumstances such as those alluded to (§ 3.) contaminate the atmosphere, in which a large number of animals are confined.

15. The *method of cure* is not so evident as the means of prevention. It may, nevertheless, be directed with the following *intentions*:—1st. To arrest the progress, or change the character, of the local affection;—2d. To moderate or modify the constitutional disturbance accompanying it;—3d. To counteract the contamination of the fluids and soft solids taking place in its progress, and to support the means of life. These indications require means for their fulfilment, possessed of energy proportionate to the violence of the disease; and whilst the local symptoms are attacked, the constitutional powers should be assisted in opposing their extension. With these views, the more volatile stimulating antiseptics, or warm aqueous vapour conveying their fumes, may be inhaled or diffused in the patient's apartment. Solutions of the chlorides may be sprinkled around; or pyroligneous acid, with kreostote and camphor, or spirits of turpentine, may be scattered over the bedclothes, or put into an inhaler with warm water, and the fumes inspired. Any of the terebinthinates may be similarly used; and solutions of either of these, or of the chlorides, may be frequently injected or employed as gargles. The chlorate of potash, or Labarraque's antiseptic solution, may also be tried internally, and stimulating diaphoretics prescribed, early in the disease. The vapour bath, with the fumes of camphor diffused in it; the warm bath, containing a sulphuret, or consisting of water in which aromatic or stimulating herbs are infused; the nitro-muriatic acid, or chlorine baths, &c.; are severally deserving of trial. Terebinthinate embrocations, as warm as they can be endured, may also be applied externally; or turpentine may be given internally, in small and often-repeated doses, with aromatics, &c. The various means detailed in the article FEVER (§ 556 *et seq.*), with reference to the treatment of the typhoid varieties, may likewise be resorted to.

16. Dr. Elliotson mentions (*Med. Gazette*, vol. vii, p. 655), that the veterinary surgeon of the 13th Light Dragoons treated

this disease in the horse by putting a quantity of scalded bran, mixed with Venice turpentine, in a horse-hair bag, and tying it over the horse's head ; the whole body of the animal being wrapped at the same time in a large blanket wrung out of boiling water, and covered with several horse-cloths. This treatment procured a profuse sweat, and a free discharge from the frontal sinuses and nostrils, and promoted the healing of the ulcerations. Dr. Elliotson also states, in his last paper on this disease, that the sedulous injection of a solution of krèostote up the nostrils removed the whole of the symptoms in a case of *chronic* glanders in the human subject, after a very few weeks.—Mr. Storry (*VETERINARIAN*, vol. vii, p. 145) adduces cases in which fumigation with carbonic acid gas appeared beneficial in glanders occurring in the horse ; but other means, as calomel, aloes, &c., were also employed.

17. In the *chronic* as well as the *acute states* of the malady, *tonics* or *stimulants* conjoined with *purgatives*, particularly cinchona, or the sulphate of quinine, capsicum, and camphor, with aloes, &c.; *antiseptics*, as the chlorides, hydrochloric acid, or chloric ether, krèostote and pyroligneous acid ; warm *alterative diaphoretics*, especially guaiacum, mezereon, senega, sassafras, sarsaparilla, variously combined ; the terebinthines, balsams, &c., and fumigating or medicated warm baths ; may severally be prescribed, and varied, appropriately to the characters of the case. The excessive thirst always attending the disease will be most beneficially quenched by a liberal use of soda water, spruce or ginger beer, Seltzer water, &c., which may be rendered still more cooling by the addition of small quantities of nitre, or the subcarbonates of the alkalies ; or they may be made the vehicles of several internal medicines.

*Dr. Copland's Dictionary of Practical Medicine,*  
Part iv, p. 30.

## CURSORY REMARKS ON VARIOUS ARTICLES IN "THE VETERINARIAN."

By NIMROD.

As you, my dear sir, are of opinion that the result of my practical experience of horses, and consequently of many of their ailments, may be worthy of the notice of the veterinary profession, I will, from time to time, offer a few remarks on some of the subjects which occupy the pages of *THE VETERINARIAN*, commencing with those of the last six numbers. Your readers

will not expect in me even an attempt at a display of pathological knowledge. As I have already expressed myself, experience—together with much attention to causes and effects—forms the basis of all I know on these matters; although I have a hundred times lamented, that it has not had for its handmaid a small portion of that science which, as it can only be acquired by something like a professional education, has been out of my reach to obtain.

By the by, always being glad to find any thing to shew that the noble object of our consideration—the horse—has been esteemed worthy the attention of persons of high distinction and great abilities, I was much pleased at accidentally stumbling on the following chapter, in Cornelius Agrippa, on the origin and progress of the veterinary art. For the elegance of the Latin I can say but little: it is on a par with that of the middle ages, in which it was written; and for that of the translation, I must say nothing, it being my own:—

*Caput LXXXVII (87) De ante Veterinaria.*

“Est adhuc alia medicinæ praxis, quam veterinariam vocant, quæ brutorum morbis medetur, cæteris longè certior et utilior, à Chirone centauro, ut fertur, inventa, et à Columella, Catone, Varrone, Pellagonio, Vegetio, nobilissimis scriptoribus illustrata. Hanc tamen annulati isti medici non tam verecundiæ sibi dicunt, quam penitus quoque ignorant et aspernantur, admodum delicatuli, ut tanquam upupa avis, non nisi humanis stercoribus oblectentur, unde si quis ab illis pro asino, aut bove suo medicamen requirat, pro remedio mox injuriam accepturus sit: quasi ad eos non pertineat scire, non solum hominibus, sed etiam cæteris animalibus (præcipuè quæ hominibus commoda referunt) mederi: pro qua re Alphonsus Aragonum rex olim duos expertissimos medicinæ doctores, pro equis et canibus amplius conduxit stipendio, jussitque sollicitos scrutari, quæ remedia, et quis medendi modus singulis bestiarum morbis conveniret, quod illi facientes librum de his rebus utilissimum ediderunt. Fecit idem his temporibus Joannes Ruellus, Parisiensis, vir in utraque lingua peritissimus, ac physicus primarius, qui de morbis equorum, eorundemque remediis, ex vetustissimis authoribus, Apsircho, Hierocle, Theomnesto, Pelagonio, Anatolio, Tiberio, Eumelo, Archedamo, Hippocrate, Hemerio, Africano, et ex Emilio Hispano, et Litorio Beneventano, defectum volumen transtulit, veterinariis omnibus magna cum Reipublicæ commoditate profuturum.”

*Translation.*—There is, besides, another practice of the art of medicine, called the veterinary art, devoted to the cure of mala-

dies in brutes ; more certain and more useful than those we have just now spoken of ; invented, it is said, by Chiron the Centaur, and illustrated by those distinguished writers, Columella, Cato, Varro, Pellagonius, and Vegetius. However, these modern physicians of ours, with their bedizened fingers, are not ashamed to be quite ignorant of this art, and to despise it. Such is their fastidious delicacy, that, like the bird called the lapwing, they appear to find no pleasure except in human excrement ; for if any one were to ask one of them for a cure for his ass or his ox, he would stand a good chance of receiving an affront instead of a remedy, as if it were not their business not only to cure men, but every other animal (especially all such as are serviceable to mankind). On which account, Alphonso, king of Arragon, maintained, with a most liberal salary, two skilful doctors for his horses and his dogs, and ordered them most diligently to ascertain what remedies and modes of treatment were most applicable to the various diseases of beasts ; in obedience to which command, they produced a book upon these subjects of infinite utility. In later times, the same thing was done by John Ruelle, a Parisian, a person eminent for his attainments in both the learned languages ; a distinguished physiologist as well, who translated a volume, very much required, on the diseases of horses, and their remedies, from the oldest authors ;—to wit, Apsirchus, Hierocles, Theomnestus, Palagonius, Anatolius, Tiberius, Eumelus, Archedamus, Hippocrates, Hemerius, Africanus, and from Emilius, the Spaniard, and Litorius of Beneventum ; a book that will be of infinite service to all veterinary surgeons, and attended with incalculable advantage to the public generally.

January Number, 1837.—The following little anecdote cannot instruct ; it may not amuse ; but it will shew the faith we sportsmen are in the habit of reposing on the dicta of men of character in your profession. Some fifteen years or more back, I spent the month of October at Moreton Hall, near Congleton, Cheshire, the seat of the late George Ackers, Esq. of coaching notoriety, and accompanied him on the bench of his well-appointed drag to Newcastle-under-Lyne, where he had some business to transact. Being about to replenish my stud, I inquired if there was a veterinary surgeon in the town ? The answer to which question was, “ Yes ; there is Mr. Mayer, one of the cleverest men in his profession.”—“ He is the man for me, then,” said I to myself ; and, taking the liberty of knocking at his door—and a liberty it certainly was—I asked him if he could oblige me by informing me where there was a good hunter on sale ? “ If you do not object to a mare,” said he, “ I have one by Castrel, which will carry your weight well.”

Pricking up my ears at "Castrel"—one of the very best stallions of his day, and whose only failing was one which it might have been well for me, could it have been laid to my own charge, namely, being a very uncertain foal-getter,—I had her brought out for my inspection, when I found her limp with the near hinder leg. "She is lame," said I. "She certainly is," replied Mr. Mayer; "but what can it be? I rode her to Lord Combermere's yesterday—in all, more than forty miles,—and she came home quite sound. Let her walk along the yard," said he to his man, "with her head quite at liberty." Then here comes the pith of my story. Taking a pencil from his pocket, he chalked out the muscle which passes down the thigh and over the hock, assuring me that there was the cause of the limp; "but," added Mr. Mayer, "you may rest assured that it is a mere temporary injury, and that in two or three days she will be quite sound again."—"Very well," I replied; "allow me to ride her over a fence or two, and if I like her in that respect, she is mine;" so, mounting John on the drag, on our way homeward, I rode her over the country, parallel with the road, for nearly two miles; found she could "do the trick;" and sent Mr. Mayer his money the next day, which was either sixty or seventy pounds. Now, had one of the old school of veterinarii been in Mr. Mayer's situation at this moment, the odds would have been great that he knew not the existence of this muscle in the first place, and, in the next, I should not have believed him if he had described it as the seat of the injury.

But the sequel. Why, about the third day, the soreness of this muscle, for such no doubt it was, abated; I sent the mare into Warwickshire; and, before Christmas-day, in consequence of her having been one of a few out of a large number that cleared the brook under Witchford Wood, at the end of a very smart burst, without a fall—the said brook being brim full, with rotten banks,—she was purchased of me by Mr. Smythe Owen, the present master of the South Shropshire foxhounds, for a hundred and fifty guineas.

Now, I have always dreaded lameness in a hinder leg *from no visible cause*; and had this mare been in my stable, I should have been quite at a loss for the seat of the evil, and the *guess* would have been either stifle or round-bone. But how is it that hunters are so rarely injured in either of those parts, whereas hounds are so liable to be "stifled," as the term is, the cause being attributed to the act of leaping, and especially in countries where the fences are placed upon banks, and the hedges splashed or bound? I never had a hunter injured in the stifle, although I must some scores of times have had their hinder legs entangled

in binders, and many a fall in consequence. In fact, I can only call to mind one instance of lameness in the stifle, arising, or said to have arisen, from this individual cause, and that I will detail. During the period of Lord Middleton's hunting Warwickshire, I recommended Sir John Dashwood to purchase a hunter at the stiff price of two hundred and fifty guineas. The said horse, however, having been used to carry a much heavier person than Sir John is, over-jumped himself at small places, and fatigued him; in consequence of which he wrote to me to say that he would part with him at a loss of fifty guineas.

Now, a fortnight elapsed before I found it convenient to make an attempt to purchase this horse, when the following were the results of my visit to him for the purpose. Sir John, loquitor, "Well, so you have a mind to purchase the General? I am sorry to say he has been very badly lamed since I wrote to you. I lent him to my son George (then at Christchurch College, Oxford, and an out-and-out good workman), who thinking, I suppose, that he could fly, got his leg entangled in the branch of a pollard-tree, and sadly strained him in his stifle. He is now, however, sound, at least I think so; for he has had a good gallop this morning, and was not lame after it, when he became cool. But observe this," added Sir John: "I am responsible for nothing relating to the General after he has passed the sill of my stable-door." This was what may be called a damper. However, after having ocular demonstration of his soundness, I purchased the General for one hundred and eighty guineas; sent him that evening to Stratford-on-Avon; was capitally carried by him on the following Thursday; and sold him the same day, after dinner, to the Earl of Warwick, who rode him two seasons; and he was afterwards in Lord Alvanley's stud, at Melton, never suffering from the accident I have alluded to.

With all due deference, I state my opinion, that this horse was not injured in the stifle joint at all, but in some of the muscles—the triceps femoris, perhaps—with which the thigh is furnished. I am disposed to think that the lameness, which was very severe whilst it lasted, would not have been removed in so short a period as ten days had it been in so complicated a part as the stifle joint, or, indeed, in any other joint; at all events, that the horse would not have been sound (as he was) when delivered to Lord Warwick's groom, on the morning after the splendid run which caused his Lordship to purchase him. However, Sir John Dashwood is now alive, and can vouch for the facts here stated, as also can Lord Warwick. As to the hypotheses, perhaps they may be commented upon by Sir John, who, I will answer for it,

takes your valuable periodical; for, among all my numerous friends and acquaintance, I know of no one who is so much interested in what relates to the horse, nor are there many better judges of his form and powers.

It may be not altogether out of place to mention, that the Castrel mare, of which I have spoken, was purchased by Mr. Mayer for ten pounds, having been turned into the park of Somerford Hall by the late Mr. Shackerley, who bred her, after having been given up as *indomita*, by every man calling himself a colt-breaker, in the county. By what means Mr. Mayer got the better of her temper, I either never knew or have forgotten; but a more docile animal, in a plain snaffle-bit, than she was, when I purchased her, was never seen in the field, or in any other place.

At page 29 of this number, is a notice of a disease among cattle, in Aberdeenshire, "fatal in many cases, and cured in none by medicine." During a visit I paid to Captain Barclay, of Ury, in that county, the winter before last, a fine short-horned cow died, having exhibited the effects of the cause here given. She was administered to by William Cross, the captain's old and excellent groom; but had I been in the captain's place, she being a very valuable animal, I should have sent to Edinburgh for Mr. Dick, who I surmise, by the signature D., is the author of the "reply" here given to the comments on this disease. The cow in question had been living on turnips and straw.

P. 52.—The article on the employment of sulphuric acid in blister ointment shews the glorious uncertainty of other things than the law. I never heard of sulphuric acid being employed in blisters; but in my younger days corrosive sublimate was much resorted to in blistering legs; and although the sloughing produced by it was the almost certain cause of blemish, its effects were much relied upon in cases of bone-spavin, curbs, and splents, as well as injured sinews.

In the Abstract of the Proceedings of the Veterinary Medical Association of this month, I find my old friend, Mr. Turner, presenting a copy of his work on the Navicular Disease, which I hope soon to have the pleasure of perusing.

February Number, p. 67.—I here find, in a cleverly written article by Mr. Cupiss, of Diss, doubt thrown upon the value of the internal use of nitre. Nitre is a drug which has been long in high esteem in hunting stables, not merely as a febrifuge in disease, but as a slight diuretic alterative, tending to restore the appetite, by checking excitement after severe work, &c.: but all good grooms are aware, that, from its repellent and occasionally irritating powers, moderation in the doses must be observed

when given to horses in strong work. It forms part of the alterative balls I so long used in my own stable with success, and which were not disapproved of by any of the profession; but, on shewing the recipe to Mr. Cuney, of Nottingham, in the late Sir Harry Goodricke's stables at Melton, I remember his saying, that he thought the balls would be better without the nitre. A friend of mine, who, perhaps—barring a few—has had as many foals dropped in his paddocks as any other man in England, always gives his mares a dose of nitre in a pint of gruel after foaling, which he considers a certain preventive of puerperal fever.

P. 73, Wood-evil and Moor-ill.—When I was a boy, my father and his neighbours lost weaning-calves, for several successive years, from a disease which I have never met with since, vulgarly called “planet struck.” They were seized all at once with paralysis of the hinder quarters, and, on the carcass being opened, the blood about the heart was found to be nearly coal black, and the stench from it most offensive.

Page 84, Case of Fracture.—The neat cure of the cattle jobber's nag, by Mr. Clayworth, of Spilsby, is one proof, amongst many, of the value of your profession in the country. Under the old *regime* the case would have been a hopeless one. But the word “fracture” leads me to remark, that I knew a country plate horse whose leg had been fractured when a colt—Sir Watkin Williams Wynne's broken-legged Taffy—and he stood quite sound upon it. It was from recollection of this circumstance that I have been induced to give a sketch of Mr. Percivall's sling, in the work I have just written on “breeding, rearing, and training the race-horse,” for the use of the French Jockey Club. Such an instance as the one I have alluded to, viz. of a horse racing after a fracture of the shank-bone, might not occur again in a thousand years; but in a young racing country, like France, the means of curing fractures are doubly valuable, by reason of the trouble and expense of importing good blood; and it is evident that a mare might not be the worse, as a brood mare, from having fractured a limb in her colthood. But in other casualties than fractures, the use of this sling is the first step towards cure.

Page 88, Mr. Gloag's improved Hobbles.—Of hobbles for throwing horses, and securing them under operation, I have nothing more to say than that I hail all improvements of this nature with satisfaction, especially so when tending in anywise to lessen animal suffering. For the occasional use of hobbles in the stable, when horses are shut up, I have always been a great advocate; I mean with such as are given to attempt to roll on their backs, which can always be discovered by their clothing. Ten minutes more would have caused the death of a capital mare

of my own, for she was nearly at her last gasp when her box was opened, having been cast with her neck bent nearly double. She was always hobbled at night, but was in the daytime, previously to this escape, left at liberty. Death from this cause is by no means uncommon. When that fine horseman, Mr. Henry Wyatt, resided at Clopton House, near Stratford-on-Avon, his famous grey mare, for which three hundred guineas had been offered to him, was found dead in the morning, from having been cast in her box in the night. She had ruptured a large bloodvessel by struggling. But the fact is, horses in either stalls or boxes cannot be said to be quite safe from accidents in the night, although hobbles on the fore-legs are a great safeguard. I remember a horse of Major Sayer's, of Ludlow, which cost him two hundred guineas, being found in the agonies of death from the following singular cause:—In scratching the side of his face with his hinder foot, *the calking of the shoe caught fast hold of the tush*: down went the animal on his back, and in that state he was found by the groom, with but little life left in him, from the efforts he had made to release himself!

Page 85, Ulceration of the Colon.—This case is one very interesting to me, from many circumstances attending it. I wish, however, Mr. Holford had stated two material ones;—first, how the mare had been treated in the summer; secondly, whether or no the eight drachms of aloes had been *boiled* before made up; and it would have been as well to have mentioned the other materials of the dose. Now, I beg to offer a few remarks on this unfortunate occurrence.

It would be absurd to say, that, in the hands of the best groom in the world—and no doubt Lord Delamere\* would take care to have one of the best—a horse may not die solely from the effects of physic, although, from the present improved method of administering it, I have reason to believe it is a *very rare* occurrence, and especially so when the medicine is made up by a skilful veterinary surgeon. In fact, under such circumstances, a few shillings would be considered sufficient to insure the life of Plenipotentiary during each dose of physic. But I am rather at a loss to account for one sentence in the detail of this case: "Harrison," says Mr. Holford, "had, eight or ten days ago, put the hunters through physic." Now, I thought—indeed, had nearly assured myself—that this system of general periodical

\* Mr. Holford calls Lord Delamere the "aged and veteran sportsman." Worse luck that he is so! I wish the mark was still in his mouth; for he is the right sort of English gentleman. I was happy to meet him a fortnight back, in London, very fresh on his legs, and doubt not his having many years still before him.

physicking was at an end, under the modern system of managing hunters, and surely Lord Delamere cannot pursue the old one ! Bad drugs will, we know, cause the death of horses : Lord Delamere's brother-in-law, indeed, Sir Watkin Williams Wynn, lost three valuable hunters from the effects of bad aloes all at the same time ; but the respectability of the druggist here alluded to seems to remove suspicion from that cause ; still, that this mare was rather overdosed, the candid admission of her groom proves.

I must now take leave to offer a word or two on the commentary to the detail of this case, signed *P.* (I conclude my friend Mr. Percivall, the Vesalius of the present day.) The writer, however, whoever he may be, doubts the propriety of giving physic to hunters in the middle of the season (this, however, does not apply to the mare in question, because fox-hunting does not begin with such men as Lord Delamere so early as the 10th of October, when she had the fatal dose, if such was the cause of her death) ; and so do I, if it can be avoided ; but the experience of sportsmen is very much in favour of it. With many horses, indeed, it is indispensable to the well-doing of their legs, leaving their bodies out of the question\*. I certainly would not, except in cases of urgent peril, give physic to a horse with "a colon stuffed with the best hay and corn and beans," although I should imagine that, after a hunter has been ten or twelve hours from his stable, or a much less time than that, with hounds, even the contents of the colon must be well-nigh expelled. At all events, I would, in every common case, wait until the state of the bowels appeared to be sufficiently relaxed by bran-mashes, as a preventive of danger from irritation. In fact, I have been what may be called a severe physicker of horses as to periods, but never had a horse anything like ill from physic.

Two curious circumstances occurred, which I have already detailed. To one horse my groom gave two doses, *one after another*, by mistake. The purging, of course, was violent, and continued three days, being at last stopped by starch and laudanum. Another horse twice brought back the ball through his left nostril, followed, the last time, by a small quantity of blood. The first was given by my own groom, but, on repeating the attempt, I employed Mr. Collier, of Ludlow (father to one of your profession), who was particularly expert at the act of balling ; but his skill was of no avail, and I afterwards gave physic to this horse in solution.

\* The writer of this comment must be aware that all race-horses are physicked several times in the course of the year, and often when in the strongest work, and living on the highest food.

This reminds me of another instance of the value of the veterinary profession in what are called "the Provincials." At the period I am speaking of, there was no veterinary surgeon nearer to my residence in Shropshire than in the town of Worcester, where the late Mr. Samuel Palfrey resided, and practised over a vast extent of country—I should say of thirty miles diameter. An unfortunate occurrence took place close to my house. A person brought a stallion (Master Betty, or Young Roscius, as he was also called) to shew me. Being out with the hounds at the time, he put him into a stable at a neighbouring public-house, to await my return, and gave him a whole egg, which got cross-ways in his throat, and killed him. Of course, the only means tried were the old ones,—the butt-end of the carter's whip, which was either to break the egg or push it down; neither of which would it do, and, in consequence, the animal died; but Mr. Palfrey told me (and I entreated the owner to send for him) that he would have extracted the egg by an incision, with very little danger. I read of a similar case to this, a few weeks back, with a cart stallion, at Barnsley, in Yorkshire, which likewise ended in death. And, after all, of what avail can an egg be to a covering stallion? As a means of invigorating him, I should imagine, of very little. Rubens was, we know, a very slack coverer; but Mr. Dundas, afterwards Lord Amesbury, told me, that during the seasons he had him in Berkshire, which was when he (Rubens) was far advanced in life, he found him very much more eager for a mare from being fed with bruised oats and bran, *made into mashes with new cow's milk*. When I had Mervinia with Rubens, when the Marquis of Westminster had him at Eaton Hall, Cheshire, I went myself to see him serve her. He would not look at her until a grey pony was brought in his sight; but that had the desired effect. So much for fancy, as John kissed Nancy.

March Number, p. 140.—I read the paper by Mr. Mayer, jun., on "The Past and Present State of Veterinary Science," with equal pleasure and interest. That the profession will arrive at that high state of physiological knowledge which he deems indispensable in the due course of time, may, I think, be justly inferred from the progress made by it in the last twenty years in anatomical and pathological knowledge, operative surgery, &c.; but the "fixed standard of veterinary jurisprudence" may not be so near at hand. As Mr. Mayer himself admits, it requires a base of no ordinary solidity; and firm indeed must it be to resist the force of opinion, which will ever be battering against it. Even in human practice, we can scarcely say it is established, which would be shewn by an appeal to insurance offices. There are, indeed, instances on record, of persons hav-

ing coughed themselves to death from *supposed* injury to the lungs; whereas, on post-mortem examination, the lungs have been found the only sound part of the viscera.

Page 144.—I admit, with your justly esteemed correspondent, Mr. W. C. Spooner, of Southampton, that a veterinary surgeon is placed in a difficult situation whilst inspecting a horse on sale, warranted sound. I remember hearing the late Lord Maynard say, by the cover side, in Leicestershire, that he had never had a happy moment since he had spent two hours in the surgery of a celebrated member of your profession. “I expect every horse I have,” said his Lordship, “to lame himself in stepping over the sill of the stable-door, so fearfully and wonderfully do I find him to be made.” I also admit, that a veterinary surgeon in this case should “act upon the safe side;” and that, were I in the profession, I would certainly reject a horse with spavins, although not lame, unless I were well acquainted with his previous history; neither do I wish to be understood to imply, that I would purchase such a horse at any thing of a price, unless from a knowledge, either on my own part or that of others, of his previous history and soundness, in severe work. Mr. Spooner’s assertion, or rather hypothesis, that the cause of lameness in the hock, generally attributed to spavin only, is, in seven cases out of ten, to be attributed to deeper-seated disease in that joint, is in part confirmatory of the doctrine insisted upon by Mr. Mayer, jun.,—viz., that in proportion as anatomy, physiology, and pathology, are still more perfectly understood and described, will the profession be able yet more to simplify diseases, more judiciously to apply remedies, and attain more just principles upon which to base their operative surgery; finishing the paragraph by judiciously expressing a hope, that they may *then* look forward with more confidence towards obtaining a substitute for that dernier resort, the actual cautery. God send they may! say I.

P. 151, New Views regarding Roarers, by Mr. James Turner, Regent-street.—Putting talent quite out of the question, there is no person, in my opinion, to whom owners of horses are more indebted than to the gentleman whose name is attached to this interesting paper, and for those inestimable requisites to perfection,—perseverance and zeal. At one time we find him galloping across the country after specimens of one disease, then after another; and now we have him, with a burning scent, running the cause of roaring to ground, not in the throat, but in the nose. In fact, with the “*res notissima*” in his view, the “*causa latet*” brings not Mr. Turner to check. All I have to say on the especial nature of the subject here discussed, is, that,

inasmuch as Mr. Turner has found a case in which the seat of roaring did exist in the nasal fossa, or air-passage of the face, and as that part of the animal is more within reach of the operator than those in which it almost exclusively belongs, successful means will not be wanting to remove *this* cause. I can mention one case in which it struck me that roaring commenced in the nose. The well-known and enterprising Mr. John Price, of Ryal, near Upton-on-Severn, asked me to give his Bobadil horse a gallop in the large meadow close to that town; and be it known, that he had refused a very large price for this said Bobadil horse. "A most delightful goer," said I, when I pulled him up; "but he makes a nasty noise *in his nose*." "Nonsense!" replied his owner; "a sounder animal never breathed." Now for the sequel. Mr. Price gave him a gallop, admitting that he heard *something in his nose*; and in less than two months he was a roarer, and sold for an old song.

My own experience in roarers is not worth detailing. It consists of a hack I called "The Bull", for when in deep ground he roared not unlike a bull; and a whistler, which I purchased at a small price for a hunter, but, having nearly killed me from want of *the needful* (one Berkshire turnip field, after a frost, pumped him out), I soon got rid of him. Many years back I took Sir Henry Peyton's advice: "Never buy a whistler," said he; "he cannot improve on your hands, and he is almost sure to get worse." Still—and this is in favour of the seat of the disease varying—I have seen some first-rate hunters that have been roarers. I remember General Harry Warde's Star, for which six hundred guineas were refused; Will. Barrow's Grey, when he hunted the Warwickshire hounds; Tom Hill's Grog horse, over the Surrey hills; a horse ridden over Warwickshire by a gentleman who—fortunately here perhaps—had lost the tympana of both ears. It was something bordering on the "awful" to see this person riding this horse at stiff timber, perfectly unconscious of the noise he was making, and still he seldom gave him falls. Mr. Tatchell's famous Black Sultan horse was purchased as a roarer for £30, Mr. T. refusing £300 for him; and Mr. Francis Charton, on a roarer that he purchased for £30 from Mr. Parker, then master of the Worcestershire fox-hounds, was one of two only whose horse's pipes were good enough to attempt a high stile, at the top of the Brill hills, with Sir Thomas Mostyn's hounds, which he cleared without touching, and in my presence. So much for *degrees* of roaring, depending, perhaps, but I speak diffidently, on the seat of it; and I could produce half a score more instances, if

I were to look back for them. Pray, Mr. Turner, proceed in your "chace," and you will be entitled to some handsome tribute of gratitude from owners of horses, fox-hunters, and racing-men in particular, if you can fairly mark your game. It appears your brother was in the field rather before you, but only on a cold drag ; or, in language not sporting, somewhat on the prophylactic system. After all, although you will not, I fear, often find the cause of roaring in the nose, yet, if you throw some light on the occasional sources of this nuisance, you will have my thanks at least.

April Number, p. 199.—Neurotomy, by Mr. Charles Morris, Bideford. Here are three cases of neurotomy, by a young practitioner, two of which ended to his satisfaction, although nearly defeated in all by the absurd custom of turning out to grass. Mr. Sewell wants an act of parliament to prevent firing horses. "Let the act of turning them out to grass, unless under peculiar circumstances," be included in the prohibition, would be my request. Will the homely axiom of "Let well alone" never find its value in the management of this useful animal? I never had a horse "nerved;" but I highly approve of the operation, and especially for brood mares who suffer pain, as it is nearly certain to affect the produce, if not to be the cause of barrenness. I have not seen many nerved hunters; but I remember Mr. Maxse riding one over Leicestershire two seasons, and he carried him very well; and likewise the case of Mr. Wilding's hunter, in Shropshire, reported to you by Mr. Hickman, of Shrewsbury. Although the operation must be a painful one, it is an act of mercy towards lame coach horses, who are generally kept in work, notwithstanding their lameness.

The appearance of the hoof of one of the horses operated on by Mr. Morris, and the fear expressed by the groom, reminds me, that Mr. William Parker, V. S. of Birmingham, told a friend of mine, that as a horse which had been nerved was galloping in a coach, his hoof (i.e. the box of it) and shoe were cast into the air together. Mr. Tilbury rode a nerved horse two seasons, but on taking a down-hill fence the fetlock snapped, and the horse went a few strides on the stump.

P. 207.—On the Principles and Practice of Shoeing. My limits will not allow me to enter on this subject. On what "principle" horses on the Continent, and especially in this part of France, are shod, I am unable to say, although, from the roughness of the workmanship, it certainly approaches the natural. I do not see many horses here lame in the feet; but, barring the estafette mail horses, who ever sees them go more than six miles

in the hour? and there lies the secret. I should say the average rate of carriage and riding horses in France does not reach five miles in the hour.

P. 99, (Abstract).—Mr. Brough's paper on Acute Indigestion, or Stomach Staggers, appears to me a most able production, and I regret that it could not be given at length. A cheap copy of it, together with the additional remarks of yourself and others, would be a God-send to farmers and road-waggon-horse owners—that is to say, if they would read it. Your allusion (p. 103) to the effect on respiration and inspiration of a loaded stomach, strengthens my supposition, that the general absence of broken wind in horses in France, is to be attributed to the speedy discharge of the stomach, occasioned by the lax state of the bowels from the relaxing nature of the food. I am quite sure I have never seen in France the fæces of a horse in hard, dark-coloured balls, as we generally see those of hard-working and highly-fed ones in our own country—very much, as Abernethy used to say, resembling gingerbread nuts. On the contrary, it has more the consistency of cow-dung. I have good reason to believe, that what you gentlemen call stercoral colic, the most dangerous, I believe, of all, is of rare occurrence in this part of France, unless with very old horses; and in all others except the vine departments, where they eat the clippings of the vineyards.

N.B. I have never seen French horses eat what we call chaff, by which is implied two kinds of food; one, cut straw and hay, or clover, mixed; the other, the husk of the wheat berry, which I consider very likely to produce this sort of colic. English farmers, however, often give it their horses, on the principle, I suppose, that "what won't poison will fatten, and what won't fatten will fill up." Mr. Chaplin, the coach proprietor, told me in the room in which I am now writing, that he is the only extensive London coach proprietor who does not give his horses cut fodder, called chaff. Query, is he right or wrong? He himself appeared in doubt; and I think it would be well if the subject of dietetics were oftener treated on by the profession, being an interesting feature in what one of them—Mr. Percivall, I think—calls "medical zoology." Positive science on these matters,—the influence of food and air\* on animals,—may, perhaps, never be attained; but much good would be the result of the discussion of them by able pens. They are the *irritamenta malorum*,

\* I have not seen the Essay on the Atmosphere of my old acquaintance, Mr. Lucas, of Atherstone, nor, indeed, Mr. Lucas himself, since we assisted in carrying Mr. Osbaldiston from the field when he broke his leg in a fall.

I believe, or all but so; and as such, being so nearly within the confines of nature, I am sometimes disposed to ask—wherefore should this be?

I now conclude this letter—a long-winded one, I fear you may think it,—but when I get on the subject of the horse, I scarcely know when or where to stop. In my next, I shall notice a few of the facts detailed in the numbers for May, June, and July, intending to offer my sentiments on the comparative effects of deep firing and setons.

NIMROD.

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## INFLUENZA IN CATTLE.

*By Mr. J. GUTTERIDGE, Caermarthen.*

### CASE I.

THIS was a cow of the Castlemartin breed, four years old, the property of Mr. Easmond, of Brook. She was brought up with the other cows, as usual, to be milked, when she was observed to cough most violently, and heave at the flanks. After standing in the cowhouse a short time, she did not give her milk freely. Mr. E. immediately bled to the amount of four quarts, and gave half a pound of Glauber salts, with a little ginger, in some warm beer.

On the following morning, finding the cow no better, I was sent for, March the 16th, 1836. On my arrival, I found the following symptoms:—The eyes considerably swelled and overflowing with tears; the mouth dry, and feverish; great inflammation of the throat; pulse 71; much debility; exceedingly cold; great constipation of the bowels. I bled to the amount of three quarts, when I was obliged to stop, the animal not being able to bear a farther loss of blood. One hour afterwards, I administered six drachms of aloes, one drachm of emetic tart., two drachms each of ginger and nitre, in a draught. I applied a strong blister to the throat and sides, and passed a seton on each side of the throat. Injections of warm water every three hours; bran mash was given, but there was no appetite. Horn with gruel every two hours; hand-rubbing to the legs, and turn into a loose cowhouse, well bedded down.

17th.—Pulse 60; extremities not so cold; mouth still dry, and feverish; blister taken good effect; breathing more tranquil; bowels not yet acted upon. Repeat the draught; continue the gruel and bran mash, which she begins to eat rather sparingly; linseed tea constantly within reach.

*19th.*—Much better ; bowels moderately open ; appetite much improved ; breathing quite tranquil ; cough nearly gone ; seton discharging well. I ordered the cow to be kept quiet ; bran mash and gruel four times a-day, with green meat and potatoes cut small. Give three drachms of aloes, one ditto ginger, three ditto nitrous ether in a quart of warm gruel.

*20th.*—Doing well ; discontinue medicine ; dress seton, and turn out the cow a little in the day, when fine.

#### CASES II and III.

*April 3d.*—I was sent for again by Mr. E., who informed me that the black cow was quite well, but that two other cows appeared to be ill, and he feared that it would spread through his dairy, as the cows did not look so healthy as usual. I went and saw these two cows. There was great inflammation of the throat, swelling of the eyelids, inflammation of the membrane of the nostrils, debility, acceleration of pulse, &c.

I immediately bled each of them to the amount of four quarts, and administered the following draught:—five drachms of aloes, one drachm of emetic tart., two drachms of ginger and nitre. I also applied a blister to the throat, and gave warm bran mash ; and ordered them to be horned with gruel every three hours. Injections also were administered.

*4th.*—Much better ; the blister has risen very well : the pulse is 46 ; the breathing not so laborious ; the extremities moderately warm ; the bowels acted upon. Draught as before, with the addition of two drachms of spirit of nitrous ether.

*6th.*—All symptoms of disease have disappeared. I ordered them to be turned out for three or four hours in the day, and linseed and bran mash to be given to them morning and evening.

Mr. E. and myself now made a regular examination of the remainder of his cows, twenty-one in number. Three of them were decidedly diseased. The others were all bled, and an aperient draught administered to each of them, as a preventive.

The illness of only one of the three other cows is worth reporting. It was a black cow, six years old. The symptoms were as follows:—Eyes quite closed, and alarmingly swelled, and overflowing with tears ; great inflammation of the pharynx and larynx ; a discharge from the nose of lymph, pus, and mucus, of a greenish hue, and very offensive ; drooping of the head ; short cough ; bowels much confined ; extremities cold ; pulse 82 beats in a minute. I determined to take five quarts of blood, and to give five drachms of aloes, one drachm of emetic tartar, one drachm of digitalis, two drachms of nitre, and two

drachms of ginger, in warm gruel. I also blistered the throat and chest, and inserted a seton in the dewlap.

7th.—Much worse; pulse 97: the blister had not taken any effect; the bowels were not acted upon; the eyes more swollen; the mouth exceedingly dry, and feverish; the cough increased; the breathing more laborious, and to a degree that it was painful to witness. Upon inquiry, I found that the cow had not attempted to lie down, and was standing in a straddling manner, with her fore legs extended, as if to give room for the expansion of the lungs, which by this time had become alarmingly diseased, and had destroyed all hope of recovery: still Mr. E. wished me to proceed with my treatment. I gave a draught as before, and horned with gruel every three hours, and threw up injections every two hours. The constipation of the bowels being so great, I applied a most powerful blister to the throat and sides; and again dressed the seton, which had not yet begun to discharge.

8th.—Much worse; pulse 105; and the cow supporting herself against the wall of the shed. The bowels had been evacuated once during the night. I attempted to administer a little gruel, but she fell, and in three minutes expired.

*Post-mortem appearances three hours after death.*—The membrane of the trachea were much inflamed, and a pint and a half of mucus, most offensive, and of a dark green colour, was contained in a vessel in which floated small portions of coagulated lymph. The bronchial tubes were very much inflamed: great inflammation of the lungs, with numerous tubercles. In cutting into the right lobe, I found a large abscess, full of mucus of a dark greenish hue and most offensive; numerous small tubercles were scattered over the pleura, both costal and diaphragmatic, and also within the duplicatures of the mediastinum. The leaves of the stomach were of a dark pinkish hue, and seemed much inflamed, and the vessels greatly distended with blood. The contents of the first stomach were soft and digested; the third stomach full of undigested food, and very brittle, so as to be broken by the slightest touch of the finger, and of a very dark colour; the liver was slightly inflamed: the other contents of the abdomen exhibited very slight appearances of inflammation.

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## THE MEDICINAL POWER OF THE OIL OF TURPENTINE.

*By Mr. HARRY DAWES, London.*

IT is with pleasure I am enabled, through the medium of THE VETERINARIAN, to reply to the inquiries of Mr. George Spencer, respecting the supposed effects of the ol. terebinth., when internally administered.

I have given it for some years in doses varying from  $\mathfrak{z}\text{i}$  to  $\mathfrak{z}\text{iiij}$ , in combination with ol. lini, in cases of colic; and consider it to possess the following valuable properties: viz. antispasmodic, stimulant, diuretic, and vermifuge. It also accelerates the action of aloes, when given in combination.

I have never seen hæmaturia follow its administration, although I have known considerable quantities to be given in a very short time. I should, therefore, be inclined to attribute the appearances described by Mr. Spencer to be the effect of some lesion of the emulgent vessels.

A well-marked characteristic of this medicine is the beautiful violet odour that is produced when the animal that is under its influence voids its urine.

## ANNUAL MEETING OF THE ROYAL AND CENTRAL AGRICULTURAL SOCIETY OF FRANCE.

*April 2, 1837.*

AMONG the reports of the different sections of this society appears one of the proceedings of the veterinary schools, and the progress of the veterinary art. All our continental neighbours regard, and properly so, the veterinary surgeon as one of the most effective and valuable members of the agricultural body. The veterinary report here takes precedence of all the rest. We would not ask for this; but were the studies of the veterinary student properly directed—were they extended to every legitimate patient of his, he would in our country, as well as on every part of the continent, be welcomed at meetings like this, and have honourable mention made of him. If we do not yet mingle as we should have done with the agricultural body, may not the association which we have lately formed, lead, ere long, to reports like this, honourable to ourselves, and useful to our country? The venerable Huzard, senior, is the organ of the com-

mittee appointed to take into consideration this department of agricultural science. He thus addresses the Minister of Agriculture and Commerce :—

Sir,—This periodical concours has produced the happiest results, and the expectations of yourself and the government have been more than realized. More than 300 veterinary surgeons have been rewarded by the reception of your public thanks, or have received your medals, or other testimonies of your approbation. We reckon among them several of the directors and professors of our own and of foreign veterinary schools, and some of them have occupied high situations in the administration of their country.

Your society has this year received twenty-one MS. essays and cases, and fifteen printed works : they have been addressed to you by twenty-six veterinary surgeons, or proprietors of cattle, domestic and foreign, civil and military. The number of essays and other works has diminished : they have found their way into the monthly and other journals of veterinary science and agriculture, and have thus been more diffused over the country, than they could have been in the memoirs of our society. I would beg leave to present an account of some of the most important of these works.

#### PRINTED WORKS.

The printed works having been submitted to the judgment of the public, your committee does not deem it necessary to give more than a very summary account of them.

1. M. Ferdinand de Nanzio, director of the veterinary school at Naples, and at present at Paris, has presented us with the prospectus of an Italian journal of veterinary medicine, and including the rearing and medical treatment of all useful animals, which he is about to publish.

2. The editors of the journal of practical veterinary medicine have continued to send us their monthly periodical, filled with good essays and cases.

3. The director and professors of the royal veterinary school at Toulouse have sent to the society a memoir, which they have published on the epizootic—the rot,—which prevailed during the last year among the sheep in some of the departments of the south of France, and which has been exceedingly fatal. This memoir, published on the very spot, has been of great service to the farmers.

4. M. Lessona, director of the veterinary school of Turin, has published in Italian an essay on the non-contagiousness of peri-

pneumony in cattle. In this memoir, in which he has reviewed the opinions of the French and Italian authors, he has cited, in support of his opinion, several cases which came under his observation. This work was printed and circulated among the agriculturists of those districts by the Supreme Minister of Health in Piedmont.

5. M. Jaques Bugault has published some letters on the amelioration of the breeds of domestic animals in Les Deux Sevres and Poitou. M. Gayot, master of the stud at Strasburg, has published a synoptical table of the principal breeds of horses; and M. De Truchet has given us a new edition of his work on the horses of Camergue. These three works contain several details of local interest.

6. M. Berger Perrière has published a memoir on empiricism and charlatanism; and another on egagropiles in cattle and sheep. The instruction contained in the first will assist in putting down the empirics and charlatans, but the egagropiles will for a long time to come resist the power of medicine.

7. M. Demilly, senior, has sent to the society a memoir on the operation of tracheotomy, and the different kinds of tubes that have been employed to permit the passage of the air. The society has requested him to send to them a model of the tube which he prefers.

8. M. Vogeli, veterinary surgeon to the 7th regiment of Artillery, has published the first part of a Forage Flora (*Une Flore Fourragère*), or complete treatise on the food of the horse.

9. M. Grogner, professor of the royal veterinary school at Lyons, has sent us the new editions of his treatises on health and zoology, and also his publications on the fattening of calves, oxen, and cows.

10. M. Herpin, doctor of physic, has transmitted his work on inflammatory engorgement of the spleen, which prevailed as an epizootic among sheep.

#### MEMOIRS AND CASES.

1. M. Ollivier has addressed to the society a description of a case of arthritis followed by nephritis in a mule. It is an isolated case unaccompanied by reference to any previous one of the kind; but we trust that he will continue his inquiries into so interesting a subject.

2. M. Ferdinand de Nanzio sent an essay on a new method of treating lamenesses of the hip-joint, and of curing founder in the horse. These essays likewise appear in the Abstract of the Proceedings of the Veterinary Medical Association, pp. 64 and 68.

3. M. Lacoste, V.S. to the dépôt at Saint Lô, has addressed to us a memoir on traumatic tetanus, following castration. It is accompanied by the record of eight cases, successfully treated by repeated steam-baths, opium being administered to the amount of  $1\frac{1}{2}$  oz. in twenty-four hours, in conjunction with manna and narcotic injections. Honourable mention was made of this memoir, and of those of M. de Nanzio.

4. M. Blavette, V.S. at Bayeux, sent three cases to the society. The first was an account of a circular wound on the left hind leg of a filly. Of this wound, which was more than thirty-nine inches in length, made by a heavy piece of timber, and complicated with severe injury of the cervical vertebræ, and a flow of synovia from the hock, a complete cure was effected. The second was a history of permanent roaring, produced by perforation of the lower part of the nasal septum. The perforation was visible on a casual examination of the horse. The third was the unsuspected presence of a horse-bean which had embedded itself in the sole of a horse's foot, and produced long-continued lameness.

5. M. Drouard, V.S. of Montbard, transmitted four practical memoirs. The first, on pleuro-pneumonia in cattle, which had prevailed several years as an enzootic in that canton, especially in the autumn of 1835. Two hundred animals had been affected by it, of which two-fifths had perished. He attributed this, in a great measure, to the carelessness of the proprietors, who would never believe an animal to be ill until he began to refuse his food; who never made up their minds, until it was too late, to call in medical advice, and who then began with charlatans and empirics. The malady is well described—its causes exposed in detail; and a course of treatment recommended which is almost always successful when employed at an early period of the disease.

The second case is one of bony aneurism of the posterior aorta found in a horse that died from distended stomach. M. Drouard regards this aneurism as one of the predisposing causes of the colic and tympanitis by which the horse had been attacked from time to time. We will not examine how far this opinion of M. Drouard is well founded; but we will only observe, that we often find ossifications of the large arterial trunks, and even of the apex of the heart itself, in cattle sent to the slaughter-house, and in old cattle.

In the third memoir, the author examines the advantage of castrating bulls by ligature around the spermatic cord, as compared with the frequent practice of *bistournage*; and he asserts that the animals suffer less, that they become better tempered, that their flesh is better, that they retain less of their sexual

character, and that they submit themselves more readily to the yoke.

The fourth memoir treats of redwater in cattle. The causes and the treatment are well described, but the latter is not always successful, because the patients are too often entrusted to the empiric.

The grand silver medal of the society was awarded to MM. Blavette and Drouard.

6. M. Roche Lubin, V.S. of Rodez, sent three memoirs. The first was on the non-contagion of foot-rot in sheep. The facts which he states are few in number, and not as yet sufficiently conclusive. It is, however, an important subject, on which the society trusted that M. R. L. would continue his experiments.

The second memoir contained a description of a most fatal inflammation of the uterus which he had observed in a flock of 180 ewes. It was evidently plethora caused by a sudden transition from poor and insufficient to abundant and nutritive food. Sixty of them had been attacked when he arrived, and thirty had died: eleven had been killed, mortification having evidently taken place, and nine died afterwards—one of them immediately after yearning. All the others were submitted to a severe antiphlogistic treatment. They were bled and physicked and clystered, and they all got well. Eight lambs that were produced by mothers that died after lambing were lost. The sheep that escaped all attack of the disease were submitted to a precautionary system of treatment, and not one of them was lost; indeed, they have been able to nurse the lambs of those that died, and they yielded a considerable quantity of milk for cheese.

The third memoir contained a description of an epizootic pneumonia, which destroyed a great many sheep in the winter of 1836 in Saint Affrique. This malady, the nature and treatment of which cannot be too clearly explained to the sheep-farmer, is produced by the long continuance of the sheep during the winter in small and ill-ventilated sheep-houses, where the floor is covered by a thick dung-heap, seldom removed, and highly infectious; and also by a sudden change from the heated air of these sheep-houses to the cold air without, in order to drink of the half-frozen water, which the thirst under which they labour induces them to take with avidity, and in a great quantity. Too many sheep became diseased from this cause. The difficulty of submitting them separately to a methodical treatment—the measures adopted before the arrival of the veterinarian, in consequence of the advice of empirics and charlatans—and the ignorance and the superstition of the farmers themselves, are circumstances that have induced a mortality discouraging to the

medical attendant, and too often inducing the proprietor to abandon the breeding of sheep. Out of 1100 sheep submitted to an anti-inflammatory and yet slightly tonic mode of treatment, a third only was saved; and they were animals that were attacked at the very commencement of the disease. The others were speedily carried off, exhibiting after death hepatization of the lungs, with a complication of hydro-pericarditis and diarrhœa. The Théâtre d'Agriculture, by Olivier de Serres, was awarded to this gentleman.

7. M. Mousis, of Pau, sent the memoir of a case of retention of urine in a young mule, in consequence of violent inflammation supervening on the removal of some fungous excrescences on the sheath. Rupture of the bladder and of the rectum ensued, and the urine was discharged by the anus. A perfect cure was accomplished, but M. Mousis did not sufficiently enter into the details of the case.

The same gentleman presented a memoir on a species of mange which was epizootic among the horses in the department of the Lower Pyrenées for more than eight months. This memoir also contained some general considerations on the nature and treatment of mange and other cutaneous affections, and confirming the opinions that had previously been promulgated by M. Chabert. M. Mousis has deserved well of the society. In 1827 he received the grand silver medal; in 1828-9, honourable mention was made of him. In 1835 the Théâtre d'Agriculture of Olivier de Serres was awarded to him, and the gold medal in 1836. The society is persuaded that he will continue to justify this honourable consideration by the continuance and the importance of his communications.

8. M. Cros, V.S. of Milan, has sent a series of ten practical essays, all of them more or less interesting, on a gastro-intestinal disease which prevailed among horses in the autumn of 1835, in the provinces of Brescia and Cremona. Many veterinarians treated it as a kind of putrid fever, and employed setons and antiputrescent tonics. They lost a great many patients. Thirty-two animals afflicted with this malady came under the care of M. Cros. Two died in consequence of gangrene following the insertion of setons which were ordered before he was consulted. He lost but one horse among those that he had treated from the commencement of the disease. His treatment consisted in bleeding, and the administration of tartarized antimony in mucilaginous drinks. These speedily produced fœtid alvine discharges, and a slight moisture of the skin. He then commenced a course of slightly opiate drinks, and the patient was usually well in about fourteen days.

*Annales de l'Agriculture Française, Mai 1837.*

## ON INOCULATION DURING THE PREVALENCE OF EPIDEMIC TYPHOID DISEASES.

*By Professor DELAFOND, Royal Veterinary School, Alfort.*

[To whatever cause it may be traced,—and there is no one of greater power than the improved management of our domesticated animals,—the fact is undoubted, that serious epidemic diseases are far more rare among them than they were previous to the establishment of agricultural and veterinary schools. More than eighty years have passed since the murrain of cattle has assumed the murderous character which enabled it to desolate whole countries; and nearly centuries since our sheep were more than decimated by it. The epidemics of horses also, although teasing and fatal enough, are, beyond comparison, more manageable than they were in the times of our fathers. The cause of this immunity has never been demonstratively proved; and the period may again arrive when we shall anxiously look around us for some means to arrest the destructive plague. It will not then be lost time, nor will it be uninteresting, to inquire into the actual efficacy and value of certain means of prevention or cure. Among them is the inoculation of the sound animal with the virus of the prevailing malady; and with the hope, and one that has not been disappointed, of producing a modified disease, of far milder character, and that shall also afford an immunity, for a certain period at least, from the attack of the epidemic. Professor Delafond takes up the question of inoculation with the matter of typhoid fever. We do not agree with him in all his statements; much less can we enter into the personal feeling which seems to prompt his attack on the Ex-Professor Dupuy. We certainly think with him, that there is little or no necessary analogy between the typhoid diseases of cattle and their variolous ones. The all-important question is the efficacy of inoculation in subduing the power and repelling the attack of the former; and every thing else we should have rejected, had he not, in his attack on M. Dupuy's analogy, stated a host of important facts, nowhere, so far as we know, collected in so small a compass.] Y.

THE practice of inoculating the human being with the matter of small-pox, in the sixteenth century\*, and the advantages that were derived from it, suggested to some English practitioners

\* It was not until the very close of the 17th century that rumours of the practice of this operation at Constantinople reached the west of Europe. The first *printed* account of it, by Dr. Timoni, bears the date of 1713.—Y.

the idea of inoculating some cattle with the matter produced in the pustules or tumours of typhus, and which they said bore some analogy to the small-pox. Dosden and Layard first attempted this inoculation in England\*. Grashuis, Sandifort, Kopnam, Noseman, Camper, Munnicks, Bulow, Claus-Detlof, Bergius, Vicq-d'Azyr in Holland, Sweden, Mecklembourg and Zealand at different times; and Messrs. Girard and Dupuy put them to the test in France in 1815.

Like the inoculation of infants with the vaccine matter, and sheep with the matter of clavel, so the transmission of typhus in this way might expect to meet with many defenders, and many detractors. Opinions as contrary as they possibly could be have been advanced, but, thanks to the zeal and perseverance of Camper and Detlof, the inoculation with the matter of typhus has at length engaged the attention of the practitioners both of human and veterinary medicine.

The advantages which are said to attach to it are, 1st, the transmission to the inoculated animal of a typhous affection, mild in its character and easily manageable at its first appearance. 2d, The security of the inoculated animal from any future attack. 3d, The diminution of the severity of the disease in the localities in which it is prevailing; and, 4th, The preservation of thousands of beasts who would either become victims to the disease, or be destroyed in obedience to the sanitary laws.

Are the advantages of this typhoid transmission incontestable? If any epizootic of this character should break out among our cattle, ought the veterinary surgeon to propose to the authorities

\* The author of the *Treatise on Cattle* gives the following account of these experiments:—

“Inoculation for this disease was tried by some celebrated agriculturists, and particularly by Sir William St. Quentin, of Serampton, in Yorkshire. Eight calves were inoculated, seven of which had the distemper and recovered, and were afterwards turned into a herd of infected cattle without being diseased a second time.

“He likewise inoculated an old ox, which had the distemper from inoculation, and recovered. This beast was afterwards turned into a herd of infected cattle, and continued in the pasture with them until they were all dead; he was then put with another herd of infected cattle, but still he escaped.

“Dr. Layard produced some singular testimonies to this effect. He speaks of one farmer who had eight cows that survived the distemper in 1746, and which, when the disease was again among his stock in 1749, 1755, and 1756, were in the midst of the sick cattle, lay with them in the same barns, ate of the same fodder, and even of such as the distempered beasts had left and slavered upon, drank after them, and constantly received their breath and steam, without being in the least affected. The farmers were so assured of this, that they were always ready to give an advanced price for those who recovered.”

“*Cattle*,” p. 389.

a general inoculation of the animals, or would the authorities sanction such a proceeding? These are questions of the greatest interest, and merit our most serious attention.

M. Dupuy, in a work recently published, recommends inoculation in the typhous epidemic of cattle; and he hesitates not to say, that it is, in point of fact, nothing more or less than a variolous cachexy, or eruption (*picotte*) of cattle; that it resembles variolous affections in the human being, the horse, the sheep, and the swine; and, relying on the resemblance between or the identity of the maladies, and upon the results of his own experiments, he concludes that inoculation is a measure that should be adopted in preference to all others on the appearance of this disease. Such an opinion, unhesitatingly delivered by a man like M. Dupuy, who has seen and studied the disease, and has successfully practised this inoculation, must have considerable weight with veterinary surgeons, and with the municipal authorities. It then becomes our duty to examine this matter in detail, and, first of all, to inquire into the identity or analogy existing between typhus and variola, whether mild or malignant.

*Typhus—is it a variolous affection?*

Ramazzini in 1711 described typhus under the name of the small-pox of cattle\*.

The physicians of Geneva in 1714 attempted to prove the analogy which existed between this disease in cattle and the small-pox in the human subject†.

Herment, physician to the King of France, Drouen, surgeon to the Body-Guard, and Guillot, physician at Besançon, attempted to shew the same analogy.

Layard made the same observations in England in 1757, and Vicq-d'Azyr designated the epizootic typhus of 1774, 1775, and 1776, under the name of variolous typhus.

In order to ascertain the analogy or resemblance that may exist between these diseases, there seems no better way than to form a synoptical and comparative table of the symptoms, duration, and termination of the one and the other.

The typhoid epizootic presents always at its commencement, and at its full development, a serious character that cannot be mistaken. It destroys the greater part of the animals which it attacks; but after a certain time it becomes less obstinate and destructive. Strictly speaking, we might distinguish two species of typhus—the one malignant and irregular, the other mild and regular; there are also two varieties of small-pox answering to the same description.

\* Ramazzini, della Contagiosa, An. 1711.

† Reflexions sur la Maladie du bétail, par la Société des médecins du Genève, 1715

*Synoptical and Comparative Table of Contagious Typhus, and Variolous Affections, partly referrible to Man, but more so to Cattle and Sheep.*

### VARIOLOUS DISEASES.

#### *Symptoms.*

#### *A. REGULAR AND MILD SMALL-POX.*

Four periods perfectly distinct :— Incubation, eruption, serous and purulent secretion, desquamation.

#### *1. Natural Contagion—Appearance of the Malady.*

Six or eight days after its transmission, a general cough, convulsive tremors in the limbs of some beasts; tenderness across the loins.

#### *2. Eruption—Desquamation.*

From the fourth to the sixth day after the commencement of the disease :—Eruption of lenticular pustules, depressed at the summit, surrounded by a red areola, soon assuming a grey colour; containing a serous fluid under the epidermis, milk-coloured, and then purulent; drying in the form of scabs; appearing chiefly around the natural openings, under the arms, upon the breasts, between the fingers, and in different parts of the body. The general symptoms are much mitigated, after the eruption has appeared.

3. These pustules soon become of a grey colour, and form scabs, which dry and fall off in the form of scales, from the twelfth to the twentieth day. Sometimes, during the course of the

### CONTAGIOUS TYPHUS.

#### *Symptoms.*

#### *A. REGULAR AND MILD TYPHUS.*

The periods difficult to distinguish; the eruption scarcely forming a part of the disease, except at the decline of the epizootic.

#### *1. Natural Contagion—Appearance of the Malady.*

A general febrile state; shivering; agitation; prostration of strength; shaking of the head; abundant discharge of saliva; weeping; cough; constipation.

#### *2. Eruption—Desquamation.*

From the fifth to the sixth day (*Ramazzini*, epiz. 1712). From the seventh to the ninth day (*Layard*, epiz. 1747). From the fifth to the seventh day (*Dufot*, epiz. 1771). From the third to the sixth day (*Vicq d'Azyr*, epiz. 1774 and 1775). The pustules are red, flattened, containing a white fluid; thick, and afterwards purulent; appearing chiefly around the natural openings, about the breasts, at the shoulders, and over the whole body; the patient sometimes better after the appearance of the eruption.

Many authors, without indicating the precise period of the eruption, speak of pustules and buttons. (*Lancizi*, epiz. *Italie*, 1711; *Guillot*, *Drouin*, and *Herment*, epiz. *France*, 1713; *Leclerc*, epiz. *Hollande*, 1746; *De Courtivron*, epiz. *France*, 1746; *Beaumont*, epiz. *France*, 1775; *Gohier*, *Dupuy*, and *Girard*, epiz. 1818.) These two last authors have spoken of pustules during the state of convalescence.

3. These pustules soon form themselves into scabs, which fall off in scales after the fifth or sixth day (*Girard* and *Dupuy*).

At the same time, a pustular erup-

## VARIOLOUS DISEASES.

eruption, there is the appearance of vesicular pustules or aphthæ on the buccal membrane.

## CONTAGIOUS TYPHUS.

tion has been observed in the mouth, in the form of buttons, vesicles, and aphtha. (*Lancisi, Ramazzini, epiz. 1711 to 1714; Scroëkius, epiz. Germany, 1711; Société des Médecins de Genève, epiz. 1712; Leclerc, epiz. Holland, 1746; De Sauvages, epiz. France, 1746; Layard, epiz. England, 1747; Vicq d'Azyr, epiz. France, 1774 and 1775; Beaumon, epiz. France, 1795; D'Arboval, epiz. France, 1815.*)

Other observers have remarked a fortunate termination of the complaint, after the appearance of red erysipelatous spots over the whole of the body, and especially in the groin, and soon dying away, and falling off in the form of minute scales or furfuraceous powder. (*Camper, epiz. Holland, 1768; Vicq d'Azyr, epiz. France, 1775.*)

Others have remarked, as promising a favourable termination of the disease, the appearance of subcutaneous tumours, running on to abscesses. (*Layard, epiz. England, 1747; Vicq d'Azyr and Grignon, epiz. France, 1775; Girard and Dupuy, epiz. France, 1815.*)

Finally, a great many authors are altogether silent as to eruptions in any period of the disease. (*Camper, epiz. Holland, 1769; Girard and Dupuy, 1815.*)

A mucous bilious diarrhœa has often preceded a fortunate termination of the disease. (*Courtivron, Dufot, and Vicq d'Azyr.* It has oftener preceded a fatal termination, *Youatt.*)

## B. IRREGULAR AND MALIGNANT SMALL-POX.

*Symptoms according to Gilbert, Girard, D'Arboval and Dupuy.*

The attack irregular; general fever, with pains of the back and limbs; ardent thirst; foaming at the mouth; a flow of thick ichorous matter from the nose; general debility; the mucous membranes sometimes pale; the eyes swollen and weeping; pulse

## B. IRREGULAR AND MALIGNANT TYPHUS.

*Symptoms according to Bourgelat, Camper, Vicq. d'Azyr, D'Arboval, Huzard père, Grogner, Girard, and Dupuy.*

During the first two days there is great depression; great sensibility about the withers, loins, and xiphoid cartilage; general trembling; spas-

## VARIOLOUS DISEASES.

hard; the breathing sonorous; the breath fetid; the lips and extremities often infiltrated; the wool pulled off with the greatest ease. These symptoms are followed on the second or third day, or sometimes not until the eighth day, by numerous red spots on every part of the body; from which there arise hard, knotty, corded swellings, or rather agglomerations of swellings, which soon assume the form of large red pustules, principally around the natural apertures, and sometimes all over the body. Some animals die during this eruptive process. Sometimes death occurs before the eruption appears.

These pustules contain a bloody serous, ichorous fluid. In some cases this suppuration is slowly perfected, and accompanied by intense fever; often by diarrhœa and dysentery, utter prostration of strength, convulsions, and death on the tenth or twelfth day.

The cases of cure are few in number; the desquamation proceeds very slowly; the period of convalescence is always long; occasionally there is revulsion of the eruption; phlegmonous tumours; gangrenous erysipelas; pustules on every part; aphtha in the mouth; blindness.

## CONTAGIOUS TYPHUS.

modical contractions of the neck, the haunch, and the arms.

On the third or fourth day there is subcutaneous emphysema along the back; continual motion of the head; great flow of tears; nasal discharge, sometimes bloody, and obstructing the nostrils; continual discharge of saliva from the mouth; sometimes cough; laborious and plaintive breathing; constipation, to which succeeds diarrhœa; spots of ecchymosis on the body, the conjunctiva, and the nasal membrane; a violet tint of the pituitary membrane, the buccal, the breasts, and the vulva: exacerbation of every symptom at night.

On the fourth, fifth, or sixth day, there is considerable subcutaneous emphysema; aphthæ and buttons in the mouth, and around the lips and the nostrils; mucous and bilious diarrhœa, followed by dysentery; the matters expelled are black, and excessively infectious; the debility extreme; the pulse small, quick, and almost inexorable. Blood can with difficulty be procured—it is partially coagulated in the living vessels—it is thick as treacle; at other times it is altogether as thin—it is like the water with which flesh has been washed.

On the seventh or eighth day there is profound exhaustion of vital power; and tenesmus, with the constant expulsion of grey or black infectious matter. Subcutaneous emphysema forming engorgements of great size on various parts of the body.

Death on the second, third, or fourth day, and rarely protracted to the tenth. The general cutaneous eruption is rarely seen in these bad cases, or disappears rapidly by metastasis (*Vicq d'Azyr, Beauman, Girard, and Dupuy*).

## VARIOLOUS DISEASES.

C. MORBID LESIONS according to *Gilbert, Borel, Lamayrau, D'Arboval* and *Girard*, in the inferior animals, and *Guercent* in man.

*Ordinary Alterations.*

Numerous pustules, agglomerated, flattened, and surrounded by a livid areola over the whole of the frame, particularly round the natural orifices, the groins and the armpits; leaden coloured patches in various parts.

The buccal, nasal, pharyngeal, laryngeal, and bronchial membranes thick set with pustules resembling those on the skin; deeper ulcerations, destroying the whole mucous coat.

The mucous coat of the rumen, the abomasum, and the small intestines, presenting an equal number of pustules or red patches.

Pustules on the surface and in the substance of the lungs, under the form of small, yellow, lenticular bodies enclosing a sero-purulent fluid.

## CONTAGIOUS TYPHUS.

C. MORBID LESIONS after *Lancisi, Ramazzini, Herment, Guillo, Drouin, De Courtivron, De Sauvages, Layard, Camper, Sundifort, Vicq d'Azyr, Grignon, Nocq, Maillard, Huzard, père, Deplas, Beaumon, D'Arboval, Gohier, Grogner, Girard* and *Dupuy*.

*Ordinary Alterations.*

Cellular emphysema of every part of the body; ecchymoses; bloody effusion round all the cephalic organs, and deep in the substance of them. Similar effusion in the lungs, the mucous membrane of the intestines, the liver, the spleen, the kidneys, the bladder, the heart; red spots, and bloody and fœtid excrement in the intestinal tube. The pulmonary tissue sometimes engorged — at other times, broken down and gangrenous (*Camper*). The gall-bladder three or four times its natural size. The blood thick, of a dirty colour, not coagulated, speedily decomposing, highly colouring the vessels into which it is received: at other times, unnaturally thin, serous, and scarcely coloured.

*Unusual Lesions.*

*Lancisi* has seen extensive ulcerations of the œsophagus; *Herment*, the mucous membrane of the small intestine covered with ulcers; *Paris*, the lungs covered with pustules; and *Grignon* in the nose, and the fourth stomach of ruminants.

Neither *Ramazzini*, the Genevese physicians *Schroëkius, De Sauvages, Le Clerc, De Courtivron, Layard, Dufot, Vicq-d'Azyr, Beaumon, Gohier, Grogner, D'Arboval, Girard* or *Dupuy*, have observed any of these pustules.

This table shews that there is little resemblance between these two maladies, either during the life or after the death of the patient.

1. The pustular cutaneous eruption during the course of malignant typhus is a circumstance of very unusual occurrence; it

is an exception to the general rule, while during the course of malignant small-pox, whether in man, the sheep, or the swine, *the absence of these confluent pustules* is a circumstance that very rarely happens.

2. The post-mortem examination of men and of quadrupeds that have died of variola has, with very few exceptions indeed, presented these pustules on the mucous surfaces of both the respiratory and intestinal passages, while in four cases alone of typhus has the presence of these pustules been observed.

3. Ordinarily the small-pox comes under observation all at once in a certain locality; and during almost the whole of its continuance, whether its character is malignant or mild, one kind of eruption only is observed—the pustular one. In the majority of cases the typhoid epidemic is always malignant at its first appearance, and it is only towards its decline that it assumes a milder type; and, instead of a pustular eruption of constant character, exhibits one of four kinds of eruption, and all of them terminating well—the pustular, the aphthous, the erysipelatous, and the phlegmonous subcutaneous.

4. These four species of eruption are parcels and portions of the mild typhus, while they are only the sad accompaniments of malignant variola.

5. Mild typhus always runs its whole course without eruption; but this peculiar eruption is essential to the existence of variola. Camper, therefore, has well said, many years ago, that the typhoid epizootic differed essentially from the variola and the scarlatina of the human being: to which MM. Girard and Dupuy have added, that the pustular eruptions of typhus were only those fortunate metastases, or crises, from more important organs to the skin, during the period of convalescence.

The importance of the subject will, perhaps, be received as an apology for one or two observations more. Setting aside the evident contagious property by means of which variola is produced, we are utterly ignorant of the causes which give rise to it. Its appearance is usually sudden;—no fortuitous circumstances prepare for its approach—no period of time is marked for its duration; and, perhaps, never a year has passed in which its ravages have not been more or less extensive as regard the human being and the quadruped. It is neither possible to predict its appearance nor its departure; and when it arrives, it oftener attacks the young subject than the adult or the old.

Professor Delafond now enters into a train of reasoning which we are not disposed to follow, and from which he draws the following conclusion,—that there is no analogy between the contagious typhus of cattle and the variolous diseases of either men or

cattle. The question with which we are most interested is, the propriety or impropriety of inoculation with matter procured from cattle labouring under typhus, as producing a milder disease, and a security from future attack. The Professor appears to be a decided advocate for this inoculation when the disease is prevalent and destructive. This is a most important question, and is intimately connected with other inquiries and practices relating to the same and other diseases in other animals.

He proposes to treat on the following points:—the choice of the matter—its preservation—the inoculation—the immediate and ultimate effect of the virus on the constitution—the history of the practice in different European states—its success or failure in producing a milder and more tractable disease; and also the permanent effect produced on the constitution with regard to future liability to these diseases, or exemption from them.

*Recueil de Vet. Med. Avril 1837.*

[To be continued.]

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## DR. CHISHOLM ON THE MALIS DRACUNCULUS.

[Continued from page 102.]

THE very singular instances lately recorded of a fœtus found in the abdomen of two boys, one in the *Bulletin de l'Ecole de Medecine de Paris* (see *Med. Surg. Jour. of Edin.* vol. i, 376); the other, in the first volume of the *Med. Chirurg. Trans. of London*, by G. W. Young, Esq., appear to me manifest proofs, that neither the digestive powers of the stomach, nor the living principle of the blood, can destroy the ova of animals received into them. I am aware that the difficulties attending the explanation of this phenomenon, may render it inapplicable as a proof in the discussion before us. It may, however, be assigned to superfœtation as explicative of its origin, with as much reason as to “a radical vice in the organization of the germs,” on the supposition of the phenomenon being of the nature of twins. How do the fasciolæ hepaticæ penetrate into the biliary ducts of the livers of sheep which die of the rot? (probably a species of scrofula.) Let us recollect the first axiom in the science of nature, *omne vivum ex ovo*; and the answer made to the question will doubtless be, that the eggs of this insect were received into the stomach; and, after passing through the circulating system, at length deposited in the liver. A species of this insect inhabits the stomach of certain fish, particularly the bream, and thence called by Linnaeus *intestinalis*. This insect presents an instance of tenacity of life, fully as remarkable as its existence in the stomach of the

fish. Linnæus thus states it: "Hanc in brama corta mensæ apposita etiamnum vivam vidit nobilissim. Dom. Nic. Rosen, Colleg. nul. Clarissim." It is painful to see the ingenuity of such a philosopher as Dr. Darwin exerted in the attempt to explain the existence of this. He supposes the existence of the fasciolæ hepaticæ to proceed from a too dilute state of the bile, and the inactivity of the absorbent vessels of the liver. But this is a conclusion without premises; for, although the theory may account for the general morbid state of the animal in whose liver these insects are found, yet he forgets to inform us how the ova or embryo of the insect got into the liver (*Phytologia*, 4to. p. 338.) Omitting the many curious facts on record, which might be adduced as further elucidations of the proposition I have stated, more especially that inserted in the New Medical and Physical Journal of London, for October 1811, in which an eruption, having every distinctive mark of small-pox of the most favourable kind, was attended with a discharge of maggots, not only from each pustule, on being opened, but also with the urine and feces,—a case well authenticated; and also that related by Dr. Chichester, of Bath, of hæmatemesis, occasioned by, and attended with, a discharge per anum of many hundred nondescript larvæ, extremely active and voracious, capable of living without inconvenience (not at all affected by either) in alcohol, port-wine, and oil (*Med. and Surg. Journal of Edin.* vol. vii, 326); I say, omitting these and many other facts, I shall content myself with the following very extraordinary case, communicated to me a few years ago, at Bath, by a gentleman of great respectability, who witnessed himself the phenomena, and whose brother was the object of it. When this gentleman was between fourteen and fifteen, he suddenly, and without any apparent cause, lost his appetite and strength; he became emaciated, had hectic flushings, and the hair of his head fell off. Together with these symptoms, he had uniformly a painful sensation across the stomach. In short, he was considered to be in a decline, and Dr. Addington, the father of the present Lord Sidmouth, who attended him, put him on a milk diet, &c. In this state he was, one day, in the presence of his father and his brother, my informant, suddenly seized with violent convulsions, in which his stomach was thrown into a spasmodic state. In one of the efforts consequent upon this state, he threw up three frogs, small but lively, besides a number of tadpoles, or animals resembling tadpoles. From that moment his recovery commenced, and was soon established. The frogs were put into water, but they became languid, and seemed out of their element: they were then put into milk, in which they recovered,

and continued alive for a length of time, being constantly supplied with milk. This singular narrative gave rise to inquiry into the cause. The only information on this point that Mr. A.— could give, was, that the patient, his brother, had been in the habit of bathing and swimming in a pond of stagnant water, which was inhabited by myriads of frogs and tadpoles; and that his friends were thence induced to attribute his disease to his swallowing the ova or spawn of these animals in an impregnated state.

Whether it has been the obscurity of the subject itself, or the imperfect observation of those who have inquired into the nature of it, or the prejudice impressed by theory unaided by research on the mind; whichever of these causes has given rise to it, certain it is, that a singular diversity of opinion has at all times prevailed respecting the nature of the dracunculus, and the manner in which it is received into the human body. The original idea of this animal, as far as it relates to the name, more especially, seems to have arisen, among the Greeks, from some resemblance it bears to a snake.

The same conception of the animal was entertained by the Romans, who gave it the same name, only modified to suit their language, and hence called by them dracunculus: but the physiology of the animal seems never to have become a subject of discussion with either the one or the other. *Ælius*, indeed, who lived upwards of 400 years after the time of Galen (*Galen*, A.D. 131; *Ælius*, 5th or 6th century), seems, according to Dr. Friend, to have formed a more accurate idea of the nature of the animal, and probably from his being better acquainted with it. The flat country and the peculiar local circumstances of Mesopotamia were favourable to its production; but as to its origin and the manner in which it generates, and more especially in which it is received and propagated in the human body, he seems to have been ignorant of, or, at least, is silent on. (*Friend's History of Physic*, vol. i, 49.)

The Arabian physicians, from the disease being endemic in their country, were enabled to make juster observations, and to acquire, consequently, a more perfect knowledge of it. One of the most celebrated of them, however, Avicenna, calls it a nerve, and did not treat it as a worm, but as an abscess. (*Friend*, l. c.)

It is, I imagine, evident, from this short sketch of the earliest observations on dracunculus, that even those physicians of a modern date, who have collected records on the subject, have not been very attentive in selecting and comparing authorities, or have taken on trust what others had done before them. The instance of this, which occurs in the contrasted quotations of

Friend and Le Clerc, is remarkable. But, perhaps, the most extraordinary of all is the definition of *dracunculus* given by Turton in his Medical Glossary,—“A worm in Guinea, so called, because it is supposed to be poisonous.” It seems highly probable that the illiterate natives of those countries in which *dracunculus* has been endemic were the first to ascertain its animality; and that, according to their unsophisticated perceptions of its nature, the site of the sensation the animal communicated, or the tradition of some deeply impressed evil, gave corresponding denominations to it. Thus it is a current notion among the natives of Carthage, that when the *dracunculus* has, from want of care in the beginning, completed the circle, and, according to them, joined its head and its tail, the disease generally proves fatal. They firmly believe it to be a little snake, and hence call it *cobrilla*. (*Ulloa*, vol. i, p. 47.) Thus the natives of Guinea call it *guaason d'affo*—il a mal au pied. (*Chev. de Marchais Voy. à Guinée*, tom. ii, p. 136.) The natives of Africa which I have spoken to on the subject give it names bearing the same import:—the Kambas, *gnaalfou*; the Coromantees, *affang*, and *emvanne*. Thus, too, the Arabians and Egyptians assign its origin to the hardships inflicted by the Pharaohs of Egypt, and call it *tarenteel*, or the worm of Pharaoh; all bad things by the Arabs being attributed to these poor kings, who seem to be looked upon by posterity as the evil genii of the country which they once governed. (*Bruce's Travels*, vol. iii, p. 37, 4to.)

[To be continued.]

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## ON DISEASE OF THE HOCK JOINT, AS OFTEN REFERRIBLE TO THE TIBIA AND THE ASTRAGALUS.

By Mr. W. C. SPOONER, Southampton.

SOME time since a horse that I had known for two or three years died of complicated abdominal and thoracic disease. He had during this time been worked very lightly, and had manifested a peculiar way of going on both hind legs, and sometimes appeared a little lame in one of them. Suspecting mischief in the hocks, I procured the joints, and discovered a greater lesion than I even anticipated on the middle convexity of the tibia, and the corresponding depression in the astragalus. The ulceration on the former bone was at least 3-4ths of an inch in length, and nearly half an inch in width. The cartilage and periosteum were entirely removed on this abraded surface, and both hocks presented nearly the same appearance, which circumstance, no

doubt, during life prevented him from manifesting particular lameness on either leg. It must be recollected that it is now several years since that I pointed out this disease in THE VETERINARIAN; and I have since that time communicated several fresh cases. I cannot, therefore, but feel a little surprised that no other practitioner has taken up the subject, or thought it worthy of notice; and I was still more astonished to find that, during the four discussions at the Association on the subject of Setons and Cauteries, although all the diseases for which these operations were practised were professedly alluded to, yet no one mentioned, or in fact seemed to be aware of, the existence of this *very frequent disease*.

A question certainly was asked by Mr. Holmes, but by no means satisfactorily answered by Mr. Cheetham. Mr. Holmes asks "What part of the hock is diseased when there is no external swelling, and we are only assured that the disease is in the hock by the manner of going," &c. Mr. Cheetham replies: "When there is no evident change of structure in the part, and nothing was to be felt but an increased degree of heat, the disease was in the ligaments." Now this, I take it, is blinking the question altogether; for it is not at all likely that there would be increased heat without some little thickening or enlargement. Mr. Holmes, I am quite sure, meant—Where is the disease situated when there is no heat, no enlargement, and no external appearance whatever? And as this question has not been answered, I beg leave to reply, that in such cases, or in 99 out of 100, the disease consists in inflammation or ulceration (or probably both) on the articulating surfaces of the tibia and astragalus—the *parts* that the humblest mechanic would point out as being most subject to friction—the parts that so frequently become the pivots on which the whole weight of the horse as well as the rider reposes in the common action of galloping, and more particularly when the horse is topping a five-bar gate, or covering a brook twenty feet wide. The existence of this disease ought to be either acknowledged or denied, for there are many sportsmen and amateurs who, turning their attention more particularly to the *cui bono*, are now become fully aware of the situation of the mischief in these obscure cases, and therefore it does not become veterinary surgeons to be ignorant, or to appear to be ignorant, of so important a disease. I am quite sure that, if they had examined only half the number of morbid specimens that have come under my notice, and had sufficiently attended to one-half the living cases that I have met with, all doubt on the matter would have been removed from their minds. I hesitate not to assert, that the lesion I have mentioned is the cause of

quite as many cases of lameness as spavins; and the knowledge of this fact enables me at once to decide on the true seat of obscure lameness of the hind extremities; and I would venture, at any time, to wager three to one, that if the animal die, or is killed, the post-mortem examination would prove my assertion.

I am sorry to find my friend, Mr. C. Spooner, has stated that "the cases of disease of the articulation between the tibia and astragalus are few indeed;" and I can only account for this opinion being entertained by such an acute observer and excellent anatomist, by supposing that it is in country practice where such cases most abound. Every one must be aware of the great uncertainty that attends the treatment of spavins. Why is this the case? Because, in the curable cases, there is only simple exostosis, while in the others there is also ulceration in the articulating surfaces of the joint. I could enlarge on this subject as well as on that of firing, &c., but must, at present, content myself with the few remarks that I have thus hastily thrown together.

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[We beg leave to tender our thanks to Mr. W. C. Spooner for his kind and valuable present of the specimen to which he alludes in this Essay. It came too late for us by any possibility to obtain an engraving of it for the present number; but at no distant period it shall appear in *THE VETERINARIAN*. It will be seen that there could be no doubt as to the friction between these bones being the cause of lameness in this instance, and we are disposed to go very far with our friend as to its being a frequent cause.—Y.]

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## ON JAUNDICE IN THE DOG.

*By* M. U. LEBLANC.

THE words Icterus and Jaundice do not properly designate any particular disease, but a symptom of many diseases, the seat of which is variable. All who are concerned in the practice of medicine well know this. The symptom is a yellow discoloration of the skin and the mucous membranes, of greater or less intensity. I have no intention of writing a monograph of this stain of the integument, but will confine myself to jaundice in the dog, of which in my infirmary I have had opportunity to study numerous cases.

This symptom in the dog almost always announces the existence of very serious disease, as inflammation of the liver or of its excretory ducts—or of the gall-bladder—or inflammation of the stomach or small intestines—or contraction or obliteration of the excretory ducts of the liver in consequence of inflammation of these vessels, or the presence of certain concrete substances formed from the bile. I have twice opened dogs in which I certainly have not been able plainly to detect any of these lesions. They had been ill during a long period, and had laboured under violent diarrhœa, the fæcal discharge being of that white colour which characterizes distemper, and some other states of intestinal disease. The dogs in which I have found the most decided traces of inflammation, had, on the contrary, laboured under diarrhœa of a reddish brown or black colour, for one, two, or three days. The stomach and intestines always exhibit symptoms of disease in these cases.

Although I cannot physically prove that certain dogs, jaundiced, have serious lesions, which cannot possibly be appreciated by our usual observation, yet I believe this to be the case; for these dogs do not appear to be in any way ill if they are not jaundiced—all the functions seem to be naturally discharged—and the jaundice disappears spontaneously in about eight or ten days. In these cases I have remarked that the jaundice was preceded, and probably caused, by some influence of a moral character—the dog had been separated from or had lost its master—it had been deprived of its usual liberty, or it had been ill-used, or was in the fear of ill-usage.

The causes, on the contrary, of serious diseases that are accompanied by jaundice, are chiefly over-fatigue (thus greyhounds are more subject to it than pointers)—immersions in water—fighting—vomits or purgatives administered in over-doses—the ingestion of poisonous substances not sufficiently strong at once to destroy the animal—the ingestion of an enormous quantity of those medicaments which are in the hands of every pretender, as salt and tobacco—the swallowing of enormous masses of indigestible food—contusions of the abdominal viscera, especially about the region of the liver. Instances of jaundice, referrible to one or another of these causes, have often come under my observation. The most serious, if not the most common cause, is cold after violent and long-continued exercise, and especially when the owners of the dogs, seeing their hounds refuse their food after a long chase of this kind, give them powerful purgatives or emetics.

The rational treatment, and which is far from being always successful, ought to have strict relation with the real or supposed

cause of jaundice, and with the more evident concomitant circumstances. Some of these symptoms are constant and others variable. Among the first, whatever be the cause of the jaundice, we ought to reckon acceleration of the pulse—fever, with paroxysms of occasional intensity—and a clear or reddish yellow discolouration of the urine. Among the second are constipation or diarrhœa, the absence or increase of colour in the fæcal matter, whether solid or fluid. When they are solid they are usually void of much colour; when, on the contrary, there is diarrhœa, the fæces are frequently mingled with blood more or less changed: sometimes the dejections are entirely black, and then they are composed almost entirely of vitiated blood, mixed with mucus. It is not unfrequent for a chest affection to be complicated with the lesions of the digestive organs which are the cause of jaundice.

With these leading symptoms, there are often others connected which are common to an infinity of maladies, such as dryness and heat of the muzzle—dryness of the mouth—a fetid smell from the buccal membrane—a staggering gait—roughness of the hair, and particularly that of the back—an insatiable thirst, accompanied by the refusal of all food, whether solid or pultaceous—loss of flesh, which occasionally proceeds with astonishing rapidity—a tucked up and corded belly, and the hardness and tenderness principally referrible to the anterior part of the belly.

The jaundice which is not accompanied with fever, nor indeed with any morbid change but the colour of the skin, will require very little treatment. It will usually disappear in a reasonable time, and I have not found that any kind of treatment would hasten that disappearance.

When any new symptom becomes superadded to jaundice, it must be immediately combatted. Fever, injection of the vessels of the conjunctiva, constipation, diarrhœa, or the discolouration of the urine, require one bleeding, with some mucilaginous drinks. *Purgatives are always injurious at the commencement of the disease.* I consider this of the utmost importance, and, indeed, it was principally in order to bring this fairly before the public that I have ventured to publish this essay. Almost the whole of the dogs that have been brought to me seriously ill with jaundice, have been purged once or oftener, or, at least, kitchen salt or tobacco, or jalap, or syrup of buckthorn, or emetic tartar, or some unknown purgative powders, have been administered. The bleeding should be repeated several times, if the fever continues, or the animal coughs, or the respiration is accelerated. When the pulse is subdued, and the number of pulsations is below the natural standard—if the excrements are still void of their natural colour—if the constipation continues, or the animal refuses

to feed, an ounce of manna dissolved in warm water must be given, and the dog must be drenched plentifully and often with linseed tea. If watery diarrhœa should supervene, and the belly is not hot and tender, a drachm or more, according to the size of the dog, of the sulphate of magnesia or soda should be administered, and this medicine should be repeated if the purging continues. More especially should this aperient be had recourse to when the fæces are more or less bloody, there being no fever or peculiar tenderness of the belly. When the liquid excrement contains much blood, and that blood is of a deep colour, all medicines given by the mouth should be suspended, and frequent injections should be thrown up, consisting of thin starch with a few drops of laudanum. Too much cold water should not be allowed in this stage of the disease. These injections, and drinks compound of starch and opium, are the means most likely to succeed in the black diarrhœa, which is so frequent and so fatal, and which almost always precedes the fatal termination of all the diseases connected with jaundice.

In simple cases of jaundice, the neutral salts have seldom produced much good effect; but I have obtained considerable success with the diascordium, in doses from half a drachm to a drachm.

Great care should be taken with regard to the diet of the dog that has had jaundice with bloody or black diarrhœa, for the cases of relapse are frequent and serious, and almost always caused by improper or too abundant food. A panada of bread with a little butter will constitute the best nourishment when the dog begins a little to recover his appetite: from this he may be gradually permitted to return to his former food. Most especially should the animal not be suffered to take cold, or to be left in a low and damp situation. This attention to the food of the convalescent dog may be thought to be pushed a little too far, but experience has taught me to consider it of the utmost importance, and it is neither expensive nor troublesome.

*Journal des Haras, Mai 1837.*

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[We regard this as a very valuable paper: many important points are well treated; but we must, when time and space will permit, refer to a few others in which we differ from our excellent friend M. Leblanc. We shall not fear to enter the lists with him, for courtesy and kindly feeling will not be forgotten by either of us.—Y.]

## THE VETERINARIAN, JULY 1, 1837.

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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THE first session of the Veterinary Medical Association is near its close, and, on an impartial review, its proceedings will be found to have reflected much credit on those who have mingled zealously in its debates, and to have done honour to the profession generally. There has been difference of opinion on theoretical and practical subjects; there has been some occasional warmth of debate—there will necessarily be these when the heart is enlisted in the cause.

There has been an evident and a noble sacrifice of prejudice and dislike: one common cause, that of the Association and the Profession, has been honestly—heart and soul—pursued; and the time seemed to be approaching when veterinary surgeons generally would become one united body, animated by one pure and all-absorbing principle, the love of their profession.

Made wise by experience, the leading members felt the necessity of placing the existence and onward progress of the Association beyond the reach of sudden discord or malignant combination; and, without one opposing voice, they made the library and the records of the Society the property not of themselves, who had hardly and successfully laboured to establish the Society, but of the Trustees of the College, or, in other words, of the Profession itself. They gave up their claim as individuals, and were content to be permitted to assemble, from time to time, in the theatre of the College, and work out the noble plan which they had conceived. There was no reservation, no stipulation with regard to any matter whatever. It may be said that this was excess of confidence. It was not; for it was the only means, *under all the circumstances of the case*, by which they and their successors could avoid the rock on which the former Society had been wrecked. They had acted so, after deep consideration, but fearlessly, confidingly. They were satisfied that the powers that

were would justly appreciate their motives, and that neither the honour nor the interests of their profession would suffer.

There was another motive for this confidence. There had been an old bone of contention between the governors and the profession—the term profession is used advisedly, for there was scarcely a dissentient voice among those who had contributed to the advancement of their art—there was the recorded consent and approval of the medical examiners—there was the alleged pleading of both the Professors. There was a question at issue between the governors and us as to a right, exercised by the medical profession everywhere—by the veterinary profession everywhere but at St. Pancras—by every association or profession beside in the world, namely, that of deciding on the competency or incompetency of those who wished to be enrolled among them; and not the degrading, debasing transference of that examination to other hands.

We had observed that, as the members of the medical examining committee were removed by death, there was a greater and yet a greater pause in the appointment of their successors; and, on the removal of Sir Charles Bell to Edinburgh, the pause was of still longer duration. Feeling the justice of our claim—as surely founded as any plea that was ever urged—was it unnatural for us to hope that the governors were at length thinking of doing us justice? that this vacancy at the board would be suffered to remain unfilled? and another, and perhaps another still? and that when some years had passed, and we had still more vindicated our claim to their consideration, they would have placed some of the best of us where we should long ago have been? Was it at all unnatural for these thoughts to occupy our minds? They did so; and never forgetting our obligations to those who fought for the first establishment of our school, we were perfectly satisfied to wait the coming, perhaps distant day.

A short time ago, however, Mr. Stanley, of Bartholomew's, was appointed to fill the vacant seat at our board. We have no objection to Mr. Stanley as a professional man, and we mean to give him no offence; but we do confess that we view with mingled disappointment and disgust another intruder on our

inalienable rights. We do record our public, our solemn protest against the repetition of this injustice. We call upon this newly admitted examiner, and upon all his brethren, and upon the governors who appointed them, to answer before a higher tribunal than their own, that of public opinion, for the wrong which they are systematically continuing to do us. To what extent can the examination of the human surgeon or physician go? To the facts of anatomy, and the general principles of physiology and pathology. And shall we be told that, in the improved state of the veterinary art, there are not many of us who are better acquainted with the minute anatomy of the patient on which we daily attend than the surgeon can possibly be, and having a thousand times clearer conception of the nature of the various functions, and the influence of surrounding objects on the healthy or unhealthy discharge of them?

But we refrain. We record our public, our solemn protest against the repetition of this injustice. We challenge our opponents to the calm discussion of the question in all its bearings. We ask, what is it that renders us unworthy of all intercourse with our professors, and all association with others in the discharge of the duties of the Examiners' board? And while we pause for a reply, we will with fuller earnestness devote ourselves to the interests of the Association, and the improvement of the art which we profess.

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We congratulate ourselves and our readers on the accession of an excellent, and, we trust, frequent correspondent, Nimrod. His practical observation and experience will put to the test and fairly decide on the merits of many of our theories. The grand question is, How does the thing work? Are our supposed remedies and our operations so uniformly beneficial as we sometimes fancy them to be? We shall be proud to hear from him as often as his fancy prompts. We shall submit, with as good grace as we can, to the raps on our knuckles which he may sometimes bestow; and, on the other hand, we know enough of his good-nature and love of fair-play to be assured that he will not be offended if we occasionally retaliate, when we have a fair chance.

## Review.

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Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

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**MAGNACOPIA** ; or, a *Library of Useful and Profitable Information for the Chemist and Druggist, Surgeon-Dentist, Oilman, and Licensed Victualler*. By WILLIAM BATEMAN, *Practical Chemist*. Churchill.

WE took up this book with a prejudice against it :—Magnacopia ! we had heard of Cornucopia—we could well imagine that the adjective and the substantive might follow each other ; but the compression of the two into one word did not quite agree with our now fading and somewhat inaccurate recollection of our school days. Well ! we will not condemn too hastily. We turn to the preface, and in the third sentence we read as follows : “ Books written merely for the sake of pleasing, neither impro-  
vative of science nor practical in the end,” &c. Here we stuck fast. Improvative ! It is a new word, a harsh word, and it has not the slightest derivation to sanction it. How is it that this affectation of novelty, and a strange antithetical style of writing, should characterize so many of those who really have nothing to do, but to give a plain straightforward statement of facts ?

Still we will not condemn, for we know and value more than one writer, who, although he cannot quite lay aside the stilts on which he mounted when a boy, and therefore now and then gives us a little trouble to follow him, yet amply repays us for our labour, and our journey with whom is abundantly profitable in the end.

This book is principally addressed to the chemist, the oilman, the licensed victualler, and the housekeeper ; and it is designed, in the language of the author, that they shall “ meet their right-hand friend at every page.” The chemist is a regular purveyor of medicine for horses and cattle. If he has no mercy on the apothecary, we must not be surprised if he prescribes as much and as often as he can for our patients. Let us look over his collection of “ General Recipes,” so far as it concerns us veterinary surgeons : we confess that we have met with many worse collections of recipes.

But before we arrive at any of his horse prescriptions, we stumble on one, the *naïveté* of which pleases. “ **FURNITURE OIL** : Take a pint of linseed oil, half an ounce of gum arabic in lump, two drachms of alkanet root, and one ounce of shell-lac varnish. Put all these into a bottle, and stand by the fire for a week (Qy. ?

let them stand—a week's roasting would be rather too much for flesh and blood to endure), and strain. Add a sufficiency of elbow-grease!!”

In the next page we arrive at the first veterinary prescription.

“**LIQUID BLISTER FOR HORSES.**—Take two ounces of powdered cantharides, and one and a quarter pint of spirits of turpentine. Mix them. This blister is perhaps the best that can be used; it leaves little or no disfigurement.” If spirit of wine had been recommended instead of spirit of turpentine, we should have said that a very good liquid blister, but of quite full strength, would have been produced;—and to this we do not object, if it is lowered with double or treble its quantity of olive oil; but if used in its full strength, and with some of the elbow-grease previously recommended, we can tell Mr. Bateman that it will blemish, and oftener and more than he likes. For the observation that “euphorbium and corrosive sublimate do more harm than good,” in the name of our suffering patients we thank him.

“**TO CURE THE THRUSH IN HORSES' FEET.**—Take of sulphate of copper and of iron two ounces each; sulphate of zinc, powdered alum, honey, and vinegar, of each four ounces; nitric and sulphuric acid, of each half an ounce. Mix and boil together half an hour. *Remark, INFALLIBLE.*” We are not aware what suite of carriages Mr. Bateman keeps; but if he could discover an infallible cure for thrush, he has, or deserves to have, so far as money-matters go, all that his heart can wish. In our opinion, this is the old ægyptiacum spoiled. The sulphate of iron has certainly no business here, and the nitric acid had much better be omitted.

“**CORDIAL BALL.**—The best cordial balls are made as follows:—Take one ounce each of ground pimento and nitre, and make into a ball with treacle and honey.” To the hot-and-cold-blowing character of this ball, to the outrageous dose of nitre, and to the still more outrageous dose of the pimento, we do most decidedly object. We cannot conceive of any state or character of disease in which a ball like this would not be dangerous, and possibly destructive.

“**FEVER BALLS.**—Take four drachms of tartarized antimony, six of camphor, two of liquorice, nine of powdered nitre, and a sufficiency of honey to form a mass. To be given in ounce balls.” To these balls we have no insuperable objection; but in general cases of fever we had rather that the camphor should be omitted.

“**DIURETIC BALLS.**—Take seven pounds of powder of resin, eighteen pounds of common turpentine, three-quarters of a pound of powdered guaiacum, and six drachms of tartarized antimony. Dose, six drachms.” Of what service the guaiacum, or the small

quantity of emetic tartar, or, indeed, of any quantity of emetic tartar, can be, we cannot imagine. Nitre, a small proportion of ginger, and sufficient liquorice, or linseed-meal powder, *to form a mass!* would be far preferable.

“**ALTERATIVE DOG MEDICINE FOR DISTEMPER.**—Take four ounces of nitre, four ounces of sulphur, and a sufficiency of linseed oil, to form a mass, which divide into two dozen balls. Give a ball twice a-day, and plenty of clean straw to lie upon.” If there is an error of the press, and for “Distemper” we are to read “Mange,” we will suffer this recipe to pass. It is a good one; but for distemper it is only losing valuable time, and perhaps the only time in which the disease can be combatted with success.

One prescription more: “**RED WATER, in Cattle.** It is a curious coincidence, that any esculent vegetable containing the red principle of colour has a wonderful tendency to promote a speedy cure. For this purpose, crop madder with turmeric, with a small quantity of salt of tartar, should be administered, in conjunction with a brisk purgative, say (!!) two pounds of Glauber’s salts, or a double handful of fox-wort chopped small, with half an ounce of nitre, should be given once in twenty hours, until the natural colour of the water is reproduced.” “Two pounds of Glauber’s salts every twenty hours, until the natural colour of the water is reproduced!” Dangerous! murderous!! As for the “red principle of colour,” it is too ridiculous to merit one moment’s attention.

So far, then, as veterinary matters are concerned, this book is not worth having; and if it falls into the hands of uninstructed persons, it will do a great deal of harm: yet it contains the composition of many articles that it is highly useful to know something about. There is no housekeeper, confectioner, oilman, publican—there is scarcely a person who would not derive valuable information with regard to a thousand things, of daily occurrence; and the use it would be of in these respects, and the pleasure it would bestow, must be set against the occasionally, perhaps the frequent, torture or destruction of the poor horse, or bullock, or dog.

Y.

## Miscellanea.

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### THE FIRST CARRIAGE OF SHEEP BY CANAL.

A BOAT belonging to the Grand Junction Company arrived at Mr. Homer's Paddington wharf, which has been fitted up in Northamptonshire, for the purpose of bringing near 100 fat sheep to the London market. This being the first attempt of the kind, it excited considerable curiosity. It consisted of a common canal boat, that had by way of ballast a lading of twelve tons of lime stone; on this there were two slight decks, at a proper distance above each other, and a roof of thin boards above, to shoot off the rain; the space between each of the decks was divided by sliding boards into near fifty separate pens, so that each sheep had a distinct one to itself, in which he could either stand or lie down, at pleasure. On the arrival of the barge alongside the wharf, the sliding boards at the side of the boat and between the pens were taken out, and the sheep jumped out on the wharf in a few minutes. The boat left Brannston on the 20th, at three o'clock, and in fifty-three hours arrived, after a journey of ninety-five miles.—*Annual Register*, 1806.

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### SHEEP.

Thro' all the brute creation, none, as sheep  
To lordly man such ample tribute pay.  
For him their udders yield nectarious streams;  
For him their downy vestures they resign;  
For him they spread the feast: ah! ne'er may he  
Glory in wants which doom to pain and death  
His blameless fellow-creatures.

*Dyer's Fleece*, Book II.

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### A LIST OF PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS.

June 14, 1837.

Mr. R. Barrow, Newmarket,  
Mr. R. Fentress, Newcastle-upon-Tyne,  
Mr. Alex. Grey, Jun., Edinburgh.

THE  
**VETERINARIAN.**

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AUGUST 1837.

[New Series, No. 56.]

ANIMAL PATHOLOGY.

*By Mr. YOUATT.*

LECTURE XIII.

*Rabies in the Dog.—Symptoms continued.*

YOU have had sufficient proof, yesterday and to-day, of the deceptive character of rabies in its early stage. That tractable, harmless fellow that we had on our table the night before last, with nothing suspicious about him but the wandering, closing eye, has proved himself mad enough, and plenty of mischief would he have effected could he have got loose. You have had the opportunity of meeting, and not all of you without some little tremor, a mad dog's stedfast fiery gaze. You will never forget that, and it will be a guide to you. You have heard a mad dog's howl, and it will be ever impressed on your minds. We will pursue our subject.

The early stage of rabies in the dog is exceedingly obscure. It is a mortifying part of our subject, and we shall sometimes feel it so. It is too horrible a disease for the mind of the bitten person, or his friends, to be kept one moment in unnecessary suspense. There is too much danger to justify the slightest delay of the proper preventive measures; and a false diagnosis may be fatal to our reputation and the patient's life.

*A Blunder.*—I was once sent for about dusk to examine a Newfoundland dog belonging to Mr. Hatchett, the celebrated chemist. He had not eaten so well as usual. He had been restless; continually wandering to the end of his chain, and sometimes panting in a slight degree. The muzzle was dry and somewhat hot, and the tongue was hot; the eyes, so far as the light would permit me to examine them, were sunken; and the conjunctiva injected. The belly was tucked up, and hard and

chordy. Looking at him a little more closely, I found two spots of acute mange upon his back. The irritation produced by this cutaneous disease is often dreadful. I thought that he might be sadly tormented by it, and he was feverish. I ordered him ten grains of calomel—in fact, he ate it from my hand in a piece of meat.

I had not got within ten yards of him on the following day ere I recognized the countenance of the rabid dog. It is true he wagged his tail when I spoke to him, and offered himself to be caressed; but there was no mistaking the case. I inquired as to the possible mischief that had been done; and you may suppose how much lighter my heart was when I was told that no one had been near him. I am not sure that I suffered in the opinion of my employer, at least he never gave me the slightest hint that I had; but it was a long time before I forgave myself. I told you, in my last Lecture, that, on another occasion, I endangered the lives of three persons—that of the man who gave the dog the medicine which I ordered—of the youth who had suffered him to lick a sore finger, and of a child whose sore ear he licked in the interval between the morning and the afternoon: at the latter period I discovered my carelessness, or my blunder.

*A more serious one.*—An assistant did worse. I was absent from home. A dog was brought from Hampstead to be examined. Either there was much real obscurity in the case, or my young man was culpably inattentive. He failed to recognize the real malady, and gave the man some medicine for the animal, and sent him away. As they returned across the fields, the dog made several attempts to escape. He and the man quite fell out about it. The dog did escape, and was never heard of again. The man had been bitten in the struggle, and, six or seven weeks afterwards, died hydrophobous. The physician who attended the poor fellow was exceedingly indignant, and threatened publicly to expose the incompetency or the shameful carelessness of my establishment. He however relented, and I escaped many a censure.

*Importance of this part of the subject.*—I mention these circumstances, in connexion with the present part of the subject, and in connexion also with the poor fellow whom you first saw on Monday night, that a useful lesson may be imprinted on your minds. I can read the human countenance a little, and I saw that it was only a feeling of courtesy which prevented some of the medical pupils, whom I have in my *mind's* eye, and one or two of my veterinary pupils—who they are I leave to themselves—I say it was only a feeling of courtesy which restrained them from some unequivocal expression of their belief that I was deceived in my case. They will never forget, after this, that on

this subject—common between both of our professions, and a subject coming so home to our feelings—the early symptoms of rabies in that animal from whom, almost alone, we are in danger, there is occasionally very much and fearful doubt.

I will relate two anecdotes more illustrative of this, and then proceed. If I am personally connected with them all, you will, at least, do me the justice to say, that I have not concealed my own blunders. A plain didactic statement of facts may make little impression, and may soon be forgotten: these anecdotes may be recollected to useful purpose for many a year to come.

*Anecdotes resumed.*—About five years ago I was requested to go into a northern county, and see what was the matter in a kennel of hounds, several of which had died within a few days. The following were the leading symptoms:—The muzzle was hot, the countenance anxious, the appetite lost, a very considerable thirst, obstinate constipation of the bowels, and a peculiar tucked up belly, with slight yellowness of the skin. The dogs lay for several hours, at first, listless and melancholy, but not ill-tempered, except that they would snap at any of their companions who disturbed them, and in this way several got slightly bitten. To this succeeded an unusual state of restlessness, accompanied by rapid and, at length, utter prostration of strength; with a laboured and grating kind of breathing: the dog died about the third day.

The veterinary surgeon and a medical gentleman had been consulted. The former had some latent suspicion of the true state of the case; the latter said that it was fever, with a great deal of gastric and intestinal irritation. He was positive about this. The huntsman, who was a superior kind of man, likewise suspected the right cause, but was far from being sure of it, and had begun immediately to separate every dog that shewed the least symptom of illness.

I arrived, and had scarcely entered the kennel when I observed one of the sick dogs lapping the urine which he had just voided. The case was consequently plain enough, and there was not the slightest merit in my at once setting the question at rest, by deciding that it was one of those deceptive forms of rabies that are occasionally seen. We divided the whole pack into couples, and put each couple into a place by itself, so that, although we could not possibly tell what dogs had been endangered, we might limit the after-spreading of the disease. One or two sickened, and were immediately destroyed a few days afterwards. Five or six weeks after that, as we had suspected, some others became ill—they had been inoculated by their companions. They were destroyed, and the plague entirely ceased. We could never dis-

cover by what means the disease first got into the kennel: but hounds, both in the sporting season and their occasional exercise afterwards, are exposed to great danger from the worthless curs with which every part of the country abounds, and against which the utmost care of the huntsman, or the whipper-in, is not always a sufficient defence.

One story more: it will illustrate two points of some importance to the practitioner. An elderly lady, for many a year a very kind patroness of mine, sent for me one morning at her breakfast hour. She had from her childhood been accustomed to dogs; her husband kept a pack of hounds, and she had occasionally followed them, and was one of the best and boldest riders in the field. She was at breakfast when I arrived, and, sitting at the same table was a leading member of one of the Hampshire hunts. She had scarcely begun to speak to me when my eye glanced on a favourite terrier that lay in her lap. I regarded it for a moment, and perhaps thoughtlessly, but it was a natural impulse, and I did not afterwards repent it, exclaimed "Good God, my lady! why have you that dog in your lap? Do you know what is the matter with it?" "Matter! why, what is the matter?" "It is mad." She certainly put it on the floor, but was somewhat indignant at the seemingly erroneous opinion which I had so unceremoniously advanced. "Why, sir," said the sportsman, "I have lived among dogs all my life. I have kept a pack of hounds of my own. I know full well what madness is; there is nothing like it here." It was useless for me to contend against such odds. I got her ladyship to promise that she would not meddle with the dog until I saw her again, and left her exceedingly angry with me, and the gentleman very angry too, and not a little contempt mingling with that displeasure.

I went immediately to her son's residence. He was not at home, but a note from me speedily reached him. He thanked me, and begged me to try every means to get these dogs—for there was another that was with her night and day—into my own possession, saying that he would second me as far as he could. I had scarcely read this note, when her ladyship's footman came in great haste, requesting me to come down again, for the dog had bitten him and the lady's maid. I found her scarcely shaken in her opinion of the disease, yet anxious about her servants; and she urged me to tell her honestly what I thought. A messenger was soon dispatched for the surgeon, who did what was needful with regard to the servants; and, after a great deal of entreaty, I was permitted to take away the dogs, on condition that she might be allowed to see them when she pleased.

I had scarcely gone before her Hampshire friend returned, as

positive as ever that there was nothing like madness ; and he so far shook her partial faith in me, that a messenger was sent with a note written by herself, in which I was required to return the dogs. I replied that so satisfied was I of the correctness of the opinion I had given, and of the danger to her ladyship and those about her which would attend their return, that I trusted she would forgive me if I declined to send them back, at least for a few days. The servant refused to go without the dogs, and talked about policemen. I told him, that, if he did not go about his business, a policeman should dispose of him.

In the evening the messenger returned with another note, in which I was told that two lumber rooms at the top of the house had been emptied ; that staples had been driven into the wall at the farther end of each ; that a padlock was affixed to each door, the keys of which should be in the keeping of the servant that had been bitten, and that, although her ladyship might visit the dogs at the door, she would not enter either room until the recovery or death of the suspected dog. Her son, doubtless, had effected all this. The dogs were returned. On the second day afterwards the terrier died. I examined him in the presence of a surgeon attached to one of the hospitals, and we were both convinced that he was rabid.

*Restlessness.*—A very early symptom of rabies will be an extreme degree of restlessness. Frequently the dog is incessantly wandering about, shifting from corner to corner of the room, or, if he confines himself pretty much to his usual resting-place, he is continually rising up and lying down, and shifting his posture in every possible way ; disposing of his bed with his paws ; shaking it with his mouth ; bringing it altogether in a heap on which he carefully lays his chest, or, rather, the pit of his stomach, and then, all at once, bundling every portion of it out of his kennel. When he is lying in his mistress's lap, she all the while unconscious of her danger, he is incessantly shifting about. If, the owner being somewhat alarmed, he is put into a closed basket, he will not be still an instant, but turn round and round without ceasing, scraping the straw under him. If he is at liberty, he will seem to imagine that something is lost, and he will eagerly search round the room, and particularly every corner of it, with a strange violence and indecision in every motion.

This restlessness and fidgettiness strongly remind us of corresponding symptoms in the human being. The longitudinal pillow which is so anxiously formed, and on which the lower part of the chest is laid, corresponds with the strange uneasiness about the *scrobiculus cordis*, of which the human patient com-

plains. It speaks of disease about the diaphragm and the abdominal muscles, sympathizing with or accompanying the affection of the fauces.

*Pain in the bitten part.*—In a very considerable proportion of the cases of hydrophobia in the human being, there is, as a precursor symptom, uneasiness, pain, or itching of the bitten part; and a red line may be traced up the limb in the direction of the nerve. Before that, the wound, although healed, is irritable; it responds to every atmospheric change; there is that lurking in it or about it which suffers not the neighbouring tissues to be at rest. By and by, the wound swells—it become red or livid, and always painful; and pains also shoot along in the direction of the nerve. In a few cases the wound opens afresh. The poison is now beginning fatally to act on the tissue on which it has lain harmless; inflammation is set up there, and the constitution is beginning to be fatally affected. Sometimes this is the effect of imagination. When the conversation has turned on this subject, after and long after the bitten part has been excised, pain has darted along the limb. I have been bitten much oftener than I liked by dogs decidedly rabid, and, proper means being taken, I have hitherto escaped; but, many a time and oft, when I have been over-fatigued, or a little, or not a little, if the truth were told, out of temper, some of these old sores itch and throb, and actually become red and swollen.

Pain in the wounded part, expressed by anxiously licking or biting it, is a frequent precursor symptom of rabies in the dog. I have seen him eagerly licking a little red spot in the leg, during several minutes, and whining and crying during the whole of the time; and, the intellect too early and too decidedly sharing in the constitutional disturbance, I have seen him seize one of his feet, and savagely growl over it, and bite it, and tear it, until the blood flowed plentifully.

The dog often suffers a great deal of pain in the ear in common canker. He will almost unceasingly scratch it, crying piteously while thus employed. The ear is oftener than any other part bitten by the rabid dog. It is most easily laid hold of. When a wound in the ear, inflicted by a rabid dog, begins to become painful, the agony appears to be of the intensest kind. The animal becomes perfectly outrageous; he rubs it against any projecting body—he scratches it might and main, and tumbles over and over while thus employed. The young practitioner should be on his guard here. In the course of my practice I have had at least a dozen dogs brought to me with supposed dreadful canker in the ear, and at first I own that I was more than once deceived.

The history that is given of the affair will, however, generally be a sufficient guide. Is it a thing of yesterday, or has the dog been subject to canker, increasing upon him for a considerable time? Canker, both internal and external, is a disease of slow growth. It is characterized at first by an occasional shake of the head; but it must have been neglected during many a day or many a week ere it will torment the poor patient in the manner which I have described. The question as to the length of time that the dog has thus suffered, will usually be a sufficient guide. The mode in which the animal expresses his torture will serve as another direction. He will often scratch violently enough under canker, but I never saw him roll over and over like a football, and still keep scratching on, except he was rabid.

*Caution.*—Examination of the ear—would not that decide the question? Most certainly. You would expect to find, and would certainly find, very considerable inflammation of the lining membrane of the ear, engorgement of it, and probably ulceration, if all this pain arose from canker. You would most assuredly find very considerable deposition, of the colour of port-wine lees, within the conch, if you found nothing worse. If there is only a slight redness of the membrane, or no redness at all, you would naturally and rightly attribute the pain to that *recrudescence* of the wound which takes place when rabies is beginning to develop itself. The case, however, will generally speak for itself without actual examination of the ear, of which you should be very cautious. The owner will tell you, that there is no danger—that his is the quietest dog alive. From one of those quietest dogs I received the severest bite I ever had, and that which disquieted me most of any, for I could not be assured that I had penetrated to the bottom of the wound. I was convinced, in my own mind, that the dog was rabid, and said that he was; but I foolishly yielded to the importunity of the owner, and endeavoured to examine the ear, and was very properly punished with a bite on the wrist. If all this piece of work about the ear is not of more than eight and forty hours' date, and the dog attacks it in the outrageous manner I have described, say at once that he is rabid. You will be right ninety-nine times out of a hundred.

*Licking.*—The early stage of rabies is one of very great irritability and fever: the muzzle is dry and hot, and the mouth is also hot. It is perhaps on account of the pleasant coolness which is communicated to the mouth, that the rabid dog, in the first stages of the disease, is so fond of licking every smooth thing within its reach. The fire-irons, the fender, are favourite objects. The kennel, if it has been freshly painted, or is smooth and clean, seldom escapes a thorough scouring.

I shall have presently to observe, that, at the commencement of the disease, the attachment of the dog for his owner often seems to strengthen, and the natural expression of that fondness is by licking the hands or the face, or any part he can get at. Ladies and men too occasionally are apt to permit him, when in health, to indulge in this filthy habit with regard to them. It is a filthy habit, and it is a very dangerous one too. Wherein consists the danger of a rabid dog? That the virus generated under the influence of this malady is occasionally deposited on a wounded or abraded surface, and in process of time generates a similar disease in the person who has been so inoculated by it. Therefore it is that the surgeon so anxiously inquires of the person that has been bitten, and of all those to whom the dog has had access, "Has he been accustomed to lick you? Have you any sore places about you that can by possibility have been licked by him?" If there are, the person is in fully as much danger as if he had been bitten, and it is quite as necessary to destroy the part with which the virus may have come in contact. Mrs. Duff lost her life by suffering her dog to lick a pimple on her chin.

*Anecdotes.*—A few years ago I saw a dog belonging to a lady then residing at Pimlico. It was decidedly rabid. It had been naturally good-tempered, and that temper was not much changed by the disease, except that he had made two pretended attacks on the feet of a gentleman that came in, but did not bite or attempt to bite. He once eagerly darted at my legs, but he only pretended to bite them. He then tried to make it up, licking my trousers; and when I endeavoured to beat him off with my glove, he seized it, and shook it and tore it. This was the whole extent of his ferocity. His mistress, therefore, was not bitten; but she had suffered her favourite to lick her face and lips, and she confessed that he had done so repeatedly within the last few days. Her surgeon told her that it was necessary to apply the caustic freely over the whole surface of her lips. She was a very handsome woman, and, as was quite natural, she knew it. So far as any thing ludicrous could mingle with such a case, it was laughable to hear how closely she questioned the surgeon as to the degree of blemish which the caustic would leave. He was a little of a wag, and by way of punishment, as he afterwards told her, for having indulged in so disgusting a habit, he did not give her a very satisfactory denial of possible seams and discoloration, and I know not what, which she feared. The contest between the fear of hydrophobia and impairment of beauty lasted nearly two days. She then submitted to the operation. The caustic was applied freely, severely, but not more so than the case required. Twenty-four hours afterwards she had a very pretty pair of black and

swelled lips, and thoroughly ashamed she was of them; but in less than a fortnight all had peeled away, and she was as beautiful as ever.

About the same time, a physician, to whom I owe much gratitude, and for whom I feel great respect—he will read this, and I trust will believe me—was attending the daughter of a nobleman in one of the terraces in the Regent's Park. A Scotch terrier came into the room. There was something in the appearance and manner of this dog which attracted his attention, and the more he looked at the animal the less he liked him. The eldest son of the nobleman soon entered—the physician privately communicated to him his suspicions. "Oh," said the young man, "there is nothing the matter with him; he came up as usual, just now, to bid me good morning—he jumped on my bed—he licked my face as usual, but the nasty beast pushed his tongue fairly into my mouth." This, instead of removing, increased the suspicion of the medical man, and which was now mingled with alarm, and he said, "I really do not like this dog, and least of all do I like what you have just told me. I wish that you would send for Mr. Youatt." The father was consulted—I was sent for; I went, and immediately pronounced the dog to be rabid. Then came the question, What was to be done? Sir Benjamin Brodie was sent for to determine this, and to do it. He was a man of more decision than the one who operated on the beautiful lady. "There are two questions," said he; "one as to the possible absorption of the virus through the thin covering of the lips and mouth; and the other as to the extent to which the tongue of the animal entered the mouth, or the surface over which the virus conveyed into the mouth may have been carried by the tongue of the gentleman. The first question is doubtful, and we must leave nothing to chance—we must apply the caustic; and we must apply it not only over the lips, but, so far as we can reach it, the whole of the internal surface of the mouth." The young nobleman and the father gave their immediate consent, and the operation was performed. It was a severe one, but the patient bore it like a hero; and in about a fortnight or three weeks every part was healed—there was not a blemish about him, nor was his voice in the slightest degree affected.

About two years ago, a lady had an unpleasant eruption on her hands. She was accustomed to let her dog lick them. The dog became ill; I saw it, and, to her surprise and violent indignation, pronounced the animal to be rabid. During the first day she would not for a moment listen to the entreaties of her friends to let proper measures be taken with regard to her hands. On the second day, considerable change had taken place in the dog, and

it was evident that she was a little alarmed. She consented that the animal should be taken away, and that the caustic should be applied to her hands; but stoutly maintained that I had quite mistaken the malady of her dog, although he had in the mean time bitten her footman and a boy. The dog died, and, as the post-mortem appearances proved, decidedly rabid. The lady met with some one who persuaded her that there was no rabies in the case; and she left town with the full impression that she had been unnecessarily punished, and that I had poisoned her dog\*.

You will, therefore, consider the attempt at licking either an animate or inanimate object by a dog that was never accustomed to this habit, and more than usual eagerness in the act in those that have been indulged in this abominable custom, as very suspicious circumstances. I think you will agree with me, that the man or woman who suffers a dog to lick the hands is guilty of a very nasty trick; and that the person who permits this to extend to the lips and face, deserves to lose for ever all chance of any thing better than the lips of a dog being brought into contact with theirs.

*The Coach Dog.*—There is a beautiful species of dog, often the inhabitant of the gentleman's stable, the Dalmatian or coach dog. He has, perhaps, less affection for the human species than any other dog, except the greyhound and the bull-dog—he has less sagacity than most others, and certainly less courage. He is attached to the stable—he is the friend of the horse; they live under the same roof—they share the same bed—and when the horse is summoned to his work, his quadruped friend accompanies every step. These are certainly beautiful dogs, and it is pleasing to see the thousand expressions of friendship between them and the horse: but in their continual excursions though the streets they are exposed to some danger, and particularly to that of being bitten by rabid dogs. It is a fearful business when this takes place. The coachman, probably, saw not the affray. No suspicion has been excited—the dog and the horses are still interchanging assurances of their regard for each other—the horse rubs his muzzle on the dog, and the dog licks the muzzle and face of the horse, and in nine case out of ten the fatal disease is communicated from the one to the other. The dog in process of time dies—the horse does not long survive—and too

\* There is a somewhat apocryphal account related by Dr. Mayer, of Petersburg, which the reader may believe or not, as he pleases:—

“A young man had an ulcer on his left leg, which he suffered his dog to lick frequently. The dog shortly afterwards became rabid, and six and twenty months afterwards the owner was, without any further assignable cause, attacked with hydrophobia. In this patient dread of the least movement in the air was observed. He died on the eighth day.”—*Hufeland's Journal*.

often the coachman shares their fate. I am sure that I speak within compass when I say that I have known at least twenty horses destroyed in this way. You should be perfectly aware of this, in order to interpose while there is a chance, a possibility of success, and by the application of proper means, snatch the more valuable of the two from the fate which otherwise probably awaits him.

*Depravation of Appetite.*—Likewise attendant on the early stage of rabies in the dog is a loss or depravation of appetite. He usually refuses his common food—I recollect but one exception to this, and that was in the dog belonging to the beautiful lady. His appetite became enormous—I never saw any thing like it. It seemed impossible that so small an animal could devour so great a quantity of food. When he had eaten thrice or quadruple his usual quantity of meat, he would eagerly search the carpet and floor for every little crumb. His thirst was correspondingly insatiable. There is nothing surprising in this. It is only another circumstance by which the peculiar irritability of the stomach in this disease is shewn.

Generally, however, the dog refuses his usual food. He frequently turns from it with an evident expression of disgust. At other times, he seizes it with greater or less avidity, and then drops it; sometimes from disgust, but oftener because he is unable to complete the mastication of it. That paralysis of the organs of mastication of which I shall have much to say by and by has commenced, and this dropping of the food after it has been partly chewed is a symptom on which implicit confidence may be placed.

There is another circumstance to which he may or may not have been previously accustomed. The food which he will not or cannot eat, he carefully hides. There is often much method about this—it is the result of some reasoning process. A Danish dog belonging to Lord Mount Edgcumbe was rabid. He was a thoroughly quiet fellow, and I could do as I pleased with him. He would take the food which I offered him, and attempt to chew and to swallow it, but it would drop from his mouth. He would stand over it, steadfastly regarding it, and would then take it up and carefully hide it. He seemed to say, “I cannot manage this now, but I will try again by and by.”

Some dogs vomit once or twice in the early period of disease. When this happens they never return to the natural food of the dog, but are eager for every thing that is beastly and horrible. The stomach is very early and very powerfully affected in this disease.

In tetanus, and in some cases of paralysis and chorea, the dog has

considerable difficulty in seizing his food. He will frequently make two or three attempts before he will be able to grasp it. Do not make any experiments about this: I once got an ugly scratch, on which I was obliged to use the caustic, in trying how far this incertitude of aim went, in a very quiet dog that was rabid.

The natural appetite usually fails, and to it succeeds a depraved one. In the early stage of the complaint there is nothing disgusting about it, at least in the parlour dog. He is eagerly occupied in picking up every little bit of thread about the room; and it is curious to observe with what eagerness and method he sets to work, and how completely he effects his object. If, however, he has opportunity, the depravation of appetite is shewn in a plainer and, at length, truly disgusting way. Every bit of straw that he meets with he chews and swallows. He licks off the hair from his leg or his side, and forms it into a ball and swallows it—if he can get to a parcel of soft mould, he nuzzles in it, and swallows a portion. At length the scene becomes perfectly horrible: he eats all kinds of dung that come in his way, horse-dung, occasionally human excrement, and, at length, his own dung.

Some breeds of spaniels are sadly filthy feeders. There is nothing too revolting for a Blenheim spaniel occasionally to eat, and human ordure seems to be his supremest luxury. The rabid dog eagerly selects the excrement of the horse, and his own.

Some care, however, must be exercised here. At the period of dentition, and likewise of the commencement of the sexual affection, the stomach of the dog, and more especially that of the bitch, sympathizes with or shares in the irritability of the gums and of the constitution generally, and there is a somewhat perverted appetite. The dog also feels the same propensity which influences the child, that of taking hard substances into the mouth, and seemingly trying to masticate them. Their pressure on the gums facilitates the passage of the new teeth. A young dog will, therefore, be observed to be gathering up hard substances, and if he should chance to die, a not inconsiderable collection of them is sometimes found in his stomach. But they are of a peculiar character—they are all of a cleanly nature—they consist of small pieces of bone, stick, and coal. The contents of the stomach of the rabid dog are of the most filthy description. Some hair, some straw, is usually found; but the greater part is composed of horse-dung, or of his own. The hog may like to wallow in and devour all kinds of abominations—the domesticated swine, and his relative the rhinoceros, may frequently be seen turning over and selecting portions of

his own fæces—the wild boar, like those in the zoological menagerie, may rarely leave a particle for the keeper to sweep away; but be assured that, seemingly unnatural as the habits of the dog occasionally are, if you ever see him deliberately devouring his own ordure, he is rabid\*.

So with the urine. The dog, and at particular times when he is more than usually salacious, may and does diligently search out the urining places, and may even, at the times referred to, be seen to lick the spot which another had just wetted: but if a peculiar eagerness accompanies this strange employment—if in the parlor, which is rarely disgraced by this evacuation, every corner is perseveringly examined, and with unwearied and unceasing industry licked, that dog should be carefully watched—there is great danger about him; and if he should be ever observed to evacuate his own urine and immediately to turn and lick it, he may, without any other symptom, be pronounced to be decidedly rabid. I never knew any mistake about this. But it is time to break off.

\* I cannot help recurring to a *very conclusive* letter on this subject, by a gentleman, signing himself Chirurgus, of Doncaster, in the *Lancet* for 1828-9, vol. ii, p. 652.

He was sent for to see a dog supposed to be rabid. “The animal was lying listlessly on his bed, with a dull eye, palpitations, hot breath and tongue—no fretfulness—he drank heartily, and appeared to be the better for it. On the following day he was worse, had a wild eye, and was snarlish. He died the third day. The stomach was found greatly distended, and emitted a most intolerable stench, arising from its contents, which were straw and excrement. The mucous lining of the stomach was redder than in its natural state. During the delirium of the animal he had, indeed, devoured his own fæces and bedding, and, indiscriminately, any substance immediately contiguous.”

This is a tolerably satisfactory case, one would think; but what says Chirurgus of Doncaster? “I have been since informed, by an intelligent breeder and trainer of dogs, that it is no unusual circumstance for dogs to eat their own dung, when afflicted by an active disease of the nervous system. From these statements, *it is quite clear* that the fact of animals consuming their own excrement is neither of peculiar occurrence nor characteristic of hydrophobia.” Fy! fy!! Chirurgus of Doncaster.

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## A NEW METHOD OF TREATING OLD SPRAINS OF THE CAPSULAR LIGAMENTS OF THE SHOULDER AND HIP-JOINTS.

*By M. U. LEBLANC, M.V. Paris.*

[It will be recollected that Professor Nanzio, of Naples, presented an Essay on this subject to the Veterinary Medical Association in the beginning of January last. It is recorded at page 64, in the Abstract of the Proceedings of that Association. The Professor had previously spent some weeks in Paris, and had associated much with that hospitable, and talented, and zealous veterinarian M. Leblanc. At the solicitation of M. Leblanc he operated, and successfully, on a horse with hip-lameness. He repeated the operation in the presence of several of the Parisian veterinarians, and it has been adopted by some of them, and with the most favourable results. We are sure that our readers will derive great pleasure from the perusal of this article. It contains a valuable addition to our surgical knowledge; and it presents an interesting picture of the intercourse between these veterinarians of distant countries, and the friendship that grew up between them. So should it be every where.—Y.]

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WHO does not know that of all the lamenesses which we attribute generally to distentions of the capsular ligaments, those of the scapulo-humeral and the coxo-femoral joints are the most serious—difficult to be treated, and often incurable? Well-instructed practitioners, as well as ignorant empirics, have adopted very different measures, and mostly without success. Local excitants, as spirituous frictions, stimulating ointments, vesicatories, charges, and the transcurrent cautery, have been the means usually resorted to. Setons in various places, and deeper cauteries, have been employed by others. The setons have been warmly recommended by some veterinarians, and they have been applied of most unusual size, especially for lameness of the shoulder-joint.

The new treatment which will be the principal subject of this Essay, and which has been introduced among us by M. Ferdinando de Nanzio, Director of the Veterinary School at Naples, has some analogy to those already in use; but it differs from

them in some essential relations, and it differs more especially in the result, in the opinion of the author, and after many trials by some of our veterinary surgeons, and by myself.

Before I describe this new operation, I will offer a few remarks on the different lesions which ordinarily produce lameness in the upper joints of the limbs, and which we designate by the name of sprain, luxation, dislocation, &c.

The old lamenesses arising from lesions of the superior divisions of the extremities are oftenest to be attributed to diseases of the articulations, and more especially to distention of the capsular ligaments: at least, it is very probable that the lesions which we observe in these organs after the death of horses that have long been lame, are to be traced to violent extension of the ligaments; the most ordinary occasional causes, which are violent efforts, and especially if the limbs, are in some unnatural or awkward position, also sufficiently prove this.

The capsular ligament of the scapulo-humeral joint has lost its natural appearance; it is diminished in thickness in various points, and it is increased in others; the interfibrillary\* cellular texture is indurated; the tendinous fibres are no longer distinct; the surrounding mass has assumed a variable colour—oftenest of a yellow tinge mixed with red points; the neighbouring cellular tissue is also sometimes indurated, and at other times osseous; the fibres of this part are separated from each other, and the ligamentous tissue is more relaxed than in its natural state. This last state of the parts is much more rare than the former, which is undoubtedly the result of the chronic inflammation which followed the sprain.

The synovial capsule, and the synovial fringes (*glandulæ Haversii*) are always diseased—they are thickened, and of a mingled yellow, black, and red colour. The synovia is of greater consistence than in its healthy state, and of a deeper colour. The articular cartilages are diminished in thickness—sometimes they are abraded in various places which have a yellow hue; the bony extremities are sometimes displaced and deformed, and false articulations may be seen. Finally, the muscular tissue which surrounds the articulation is often discoloured and emaciated, especially when the lameness is of long standing. These lesions are also, in certain cases, accompanied by extensions of the periosteum.

The lesions of the hip-joints (*l'articulation coxo-fémorale*) are, for the most part, analogous to those already stated. The inter-articular ligaments are often less diseased than the capsular one, but they become of a deeper colour than in their healthy state. I have never observed any inflammation of the perios-

\* This word is not yet naturalized among us, but it is a very expressive one.

teum around the articulation. When the lesions of this articulation are of a serious character, and of long standing, the muscles of the croup lose their red colour, and waste away.

All these lesions are doubtless occasionally of extremely different character, as are the lamenesses that result from them. Almost all the post-mortem examinations that I have made have been of horses that have been very lame, and for a long time. It may probably be the case, that soon after the accident no very well-marked lesion can be discovered, because the lameness is occasioned by distention of the ligaments. The immediate effect of the distention needs not to be very apparent; they are the consequences of this distention which are most visible to the anatomist.

All these lamenesses of the upper portions of the extremities are not produced by sprains of the articular ligament. Without enumerating all the causes that are immediately evident to the practised eye, I may mention the muscular ruptures, of which traces are found in the opening of dead animals. In these cases it is not an entire muscle that is torn, nor a portion of muscle of a certain extent, but a greater or less number of fibres, scattered here and there in the body of the muscle. When we divide these muscles in the direction of their length, we can see, at different depths, traces of the fibres that have been destroyed. We find blood effused in the inter-fibrillary spaces, the elements of which are to a greater or less extent separated: the cruor is isolated from the serum, which is often seen under the form of a bloody jelly. The lamenesses produced by this lesion are frequently cured, by reason of the great vitality of the muscles, and the little pain which wounds of them cause, and also on account of the neighbouring and kindred powers which contribute their aid in progression, when other muscles are weakened or destroyed.

M. de Nanzio has assured me that his mode of treatment is directed simply to these distentions of the articular ligaments.

It is difficult, perhaps impossible, always to affirm to which of these causes some of the diseases of the upper portions of the limbs are to be attributed; but I think that I have remarked some shades of difference in their symptoms. In some cases I have observed that the muscles were from the beginning exceedingly tender and painful, and harder than in their natural state—that they form a prominence that can be readily seen on comparing the two sides of the croup; and that this sensibility and projection disappear, and are succeeded by a marked want of sensibility, and by a depression of the croup, that announces a wasting away of the muscles. In other cases there was no unusual pain or swelling of the croup, at the commencement of the disease a motion in

the part indicating abnormal displacement of the femur, and which could be easily recognized by placing the hand on the hip-joint while the animal was moving. I need not say that the first symptoms were indicative of lesion of the muscles, and the second of distention of the articular ligaments.

That which I have observed respecting the hind limbs is equally applicable to the fore ones : with regard to them, however, they are the muscles of the external face of the shoulder that first enlarge and then waste away.

The symptoms, however, are not ordinarily so marked as I have described them to be. In the great majority of cases, and especially when the lameness is not of very long standing, they consist only in *lameness*. There are, however, some definite symptoms accompanying this lameness. Thus, to lesions of the shoulders and hip-joints we in general assign lamenesses of long continuance, and the evident cause of which we are able to find at the inferior regions of those articulations. The immediate and careful examination of the presumed situation of the lesion is the best mode of arriving at the truth.

When the veterinarian has satisfied himself with regard to the actual existence of a chronic lesion of either of these joints, M. de Nanzio recommends the following mode of proceeding:—

1. To make a vertical incision from three and a half to four inches in length into the skin which covers the suspected articulation, taking care not to penetrate deeper than the actual substance of the skin.

2. To separate the integument from its adhesion to the subcutaneous tissue, as for the introduction of a rowel, and until there is a circular space the diameter of which is equal to the length of the incision.

3. Then by successive and gentle applications to bury a dull pointed cautery (a budding iron), brought to a yellow red heat, in the tissues beneath, and so that it shall penetrate to a depth of from an inch and a quarter to an inch and a half, according to the size of the patient and the region on which the operation is performed. In order to avoid burning the skin, an assistant must hold aside the edges of it with a flat crotchet guarded by paper or lint. Four, five, or six of these cautery lesions may be made, according to the space from which the skin has been dissected.

4. The incision should now be filled with a dry pledget of lint at first, and afterwards with one impregnated with simple digestive ointment, and this must be continued until the cautery wounds and the incision are healed, care being taken to keep the edges and other parts of the wound in their proper situation when suppuration is established.

The patient should not be submitted to any work during the cicatrization of the wound, but should be turned into a loose box : he may be led out from time to time, and his exercise gradually lengthened when the wound begins to heal : if he could be turned into a meadow it would be with considerable advantage.

If, when the cicatrization is complete the lameness should be evidently diminished, the horse may be subjected to slow and gentle work.

M. de Nanzio, who has authorised me to publish this account of his opinions, assures me that it very frequently succeeds in Naples, where these kinds of lameness are very common, on account of the pavement of the streets being composed of flat stones, which necessarily occasion many slips and falls.

I have seen this operation performed by M. de Nanzio on a horse with hip-lameness, and the animal was perfectly cured. I know that it has been adopted by some of the veterinary surgeons of Paris, and has been successful. I have had recourse to it twice on horses that had been treated in the customary manner, by frictions and charges. One of these horses I see every day. He goes much less lame, although only fifteen days have elapsed since the operation was performed. The other was sent into the country immediately after the operation. He belonged to a letter of horses in Paris, and had been lame more than a year. I shall see him at some future time, and I will give a faithful account of the effect of the operation. I did not exactly follow the directions of M. Nanzio with regard to the dressing of the wound. I simply recommended to keep the edges of the wound together until suppuration was established. I also omitted the application of the pledgets of lint, and the digestive ointment, which M. de Nanzio doubtless recommended in order to hasten or to render more active the suppurative process, because I thought that the eschars of the cauterized wounds would answer the purpose of these foreign bodies, and would be productive of less pain ; and even without the eschars the very cauterization would set up a sufficiently speedy and active suppuration. I thought also that the cicatrix of the wound would be less apparent after the parts had healed, and also that it was desirable to torment the animal as little as possible by frequent dressings of the wounds, and which dressings would frequently and inconveniently irritate the tissues. I thought that it would be the full and perfect completion of the ingenious operation recommended by M. de Nanzio, an operation which has the double advantage of producing a vivid and profound action, and, at the same time, leave scarcely a perceptible trace of its having been performed.

I know that, in order to avoid the indelible traces of the trans-

current cauterization, Bourgelat had advised, first to make incisions through the skin, and then to pass the cautery along these incisions; but the merit of his discovery did not the less belong to M. de Nanzio on that account, for he was entirely ignorant of the mode of operation which Bourgelat had recommended. Beside this, it remained for the director of the veterinary school of Naples to apply a mode of operating somewhat similar to that of Bourgelat to the treatment of these old lamenesses, which had so often resisted all our means of cure.

I beg to thank M. de Nanzio, for my country, and on my own account in particular, for the communication which he has been so kind as to make of this new curative measure, and which is destined to render essential service in the treatment of these, hitherto, untractable cases.

If I so strongly recommend this operation before I have had more extensive experience of its success in my own practice, it is because M. de Nanzio has inspired me with the greatest confidence in him, in the many interviews which I had the honour and advantage of having with him during his residence in Paris.

*U. Leblanc.*

*Journal des Haras, Juin 1837.*

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## THE ADMINISTRATION OF PHOSPHORUS IN INFLUENZA.

*By Mr. H. HUTCHINSON, East Retford.*

*Dec. 30th, 1836.*—A bay hackney mare, four years old off, has been ill some time with the influenza. At the outset she was attacked with a sore throat, slight cough, the hind extremities much swollen, the abdomen very much tucked up, and the pulse 70, very low and weak. She had been lame about six weeks previous in the off stifle, but had got perfectly sound by a seton being inserted over it. That leg was now excessively swollen, and two abscesses had formed; one in the mammæ, and the other just at the part where the seton had come out: both of them discharged very freely. I treated her by giving stimulants, and blistering the submaxillary and parotid glands, and down the front of the neck as far as the sternum, and inserting a seton under the jaw and in the chest.

She has now become so weak that she can scarcely support herself, and will neither eat nor drink any thing, so that she sub-

sists entirely upon gruels and stimulants, which we force upon her.

31st.—She is now much worse, and bears nearly the whole of her weight against the stall. I have tried most of the vegetable and mineral tonics. I have given pulv. lyttæ gr. v, in combination with ginger and camphor, twice in the day; but nothing appears to have the least effect upon her, and the animal is gradually sinking. The hair on her mane and tail can be pulled out with the slightest effort.

Jan. 1st, 1837.—This morning she is down, and cannot get up without help. I have got her up, and she can just manage to stand. I see no chance for her unless I give something to rouse the system; and all the stimulants that I have tried appear not to have the least effect. I will try phosphorus in its solid state. R Pulv. sulph. cupri, pulv. sulph. ferri of each ʒj, pulv. zingib., potass. nit. et resin. of each ʒij, M cum pulv. sem. lini, Venet. tereb. et petrol. q. s. In this I put  $1\frac{1}{4}$  grains of phosphorus, and gave it to the mare immediately. Pulse 80, scarcely perceptible at the jaw; the membrana nictitans of a dark dirty hue, and the eyes very much shrunk. I left orders for her to have plenty of linseed and oatmeal gruel horned into her, as she cannot, by any possibility, be persuaded to drink the least quantity.

2d.—This morning she looks a little lively and picks a few beans. The pulse is still 80, but plainer to the finger; the bowels are open, and she certainly appears to be somewhat better. I repeated the tonic ball with  $1\frac{1}{2}$  grains of phosphorus. The off hind leg is very much swollen, and the fore legs are beginning to swell a little.

3d.—This morning she is decidedly better, and has eaten some oats and beans, but still has an aversion to any fluid. I moved her out of the stable with great difficulty, and in turning her round she slipped down (there being ice on the ground). She was got up by main strength, and walked into the stable, contrary to the opinion of some lookers-on, who said that she never could get up again, and that if she belonged to them, they would shoot her. I repeated the tonic ball, with two grains of phosphorus. I also ordered plenty of gruel and repeated enemata during the day, as the bowels appear rather confined.

4th.—She continues to improve in her appetite; pulse 80, but stronger. With the tonic ball give now only  $1\frac{1}{2}$  grains of phosphorus, as I am fearful of carrying it too far. Administer spirit terebinth. ʒj, ol. lin. ʒxv, at night.

5th.—She has eaten better, but still will not drink any thing. The bowels are not acted upon—the thigh continues to get larger

—the setons discharge a more healthy matter—the pulse about the same as yesterday. Give the tonic ball, and repeat the spt. tereb. et ol. lin. in two hours afterwards.

6th.—She is not so well, and has eaten very little since yesterday morning. Pulse 80, but not so clear to the feeling; bowels acted upon; the thigh become more painful, and there is another abscess forming. Give in the tonic ball two grains of phosphorus and a scruple of opium.

7th.—She has been down during the night, but was up again early this morning. She has eaten a few oats and beans, and has also drunk some water, a thing that she has not done for ten days previously. Pulse 76. Give the tonic ball, with two grains of phosphorus. In the evening I opened an abscess on the inner part of the stifle, from which escaped a quantity of healthy pus. The bowels act freely; the pulse has sunk to 66.

8th.—She appears to be going on very well; her appetite is much better, and she has drunk a gallon of water since yesterday. Give the tonic ball without the phosphorus.

9th.—It is very plain that she cannot yet do without the phosphorus, as she has not eaten any portion of last night's feed, and appears much duller.—8 A.M. Give the tonic ball, with two grains of phosphorus and a scruple of opium.—5 P.M. The change that has taken place since the morning is surprising. The pulse is 64, and much firmer, the countenance much brighter, and she appears anxious for more to eat, as, of course, I only allow her a very moderate quantity.

10th.—She continues to go on well: give the same ball as yesterday.

11th.—Very much better: she can now walk out. Pulse 60; bowels regular; but the hind leg still very much thickened. Repeated the ball without opii.

12th.—I now think that she must ultimately recover, although it will take a long time to bring her to her former condition. I will venture to discontinue the phosphorus, and give the tonic ball alone.

13th to 18th.—She continues to improve gradually. One of the tonic balls is given daily.

May.—The mare is now in constant work, and in good condition; but will always have a slight thickening of the hind leg.

## OBSTRUCTION OF THE PYLORIC ORIFICE OF THE STOMACH OF A HORSE BY BOTS.

*By Mr. SAMUEL GOODWORTH, Great Driffield.*

A HORSE appeared to be ill, exhibiting all the symptoms of gripes. The person to whom he belonged was a poor man, who attributed his illness to his having eaten some sour grass on the night before, being out on a journey with him. He perceived him to sweat a great deal more than he was accustomed to do in his work, and thought that he should not have been able to get him home. He at last got him to his own residence. A surgeon living a few doors from him, the horse was taken there and bled, and a cordial ball was given to him : very soon afterwards he died. The surgeon came, and begged to have my assistance in the post-mortem examination : he said the horse had died very suddenly, and that he felt a great desire to know the cause of death. I questioned him as to his opinion of the disease ; and he said that he took it to be a common case of gripes, for the horse perspired a great deal, and laid himself down and rolled on his back. They got him up, and endeavoured to walk him about, but he was soon down again, and lay tumbling until he died.

*Post-mortem examination.*—On opening the abdomen, the first thing that we perceived was a ruptured diaphragm and a dreadfully distended stomach. We had at once sufficient cause of death. All the other viscera were apparently healthy.

I made an incision into the stomach, to try whether I could find the cause of distention. In examining the pyloric orifice, I found it obstructed by a cluster of bots ; so much so that it was impossible for the food to pass into the intestines. The bots, then, had caused the obstruction, and the obstruction the distention ; and the horse being compelled to work in that state, the diaphragm had been ruptured by the pressure of the full stomach, and death had followed.

If you think this, to me, novel case, worth a place in our valuable journal *THE VETERINARIAN*, you will oblige me by inserting it ; for I feel much interest in its prosperity, as connected with the improvement of the veterinary art.

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## ON IODINE AS A REMEDY FOR GLANDERS.

*By* EDW. THOMPSON, *Esq., Whitehaven, M.R.C.S.*

ABOUT thirteen years ago, Dr. Copland drew the attention of the profession to the appearance of glanders in man, and referred to some cases which had been detailed in *Rust's Journal*. Subsequently to this, Dr. Elliotson published his very important paper in the *Med. Chirurgical Transactions*, proving the communicability of glanders from the horse to the human subject. These notices gave an interest to the inquiry, greater than when the affection was merely considered as a disease of the lower animals; and they were followed by several important cases, occurring both here and abroad. Notwithstanding the interest excited, it is to be regretted that nothing which is practically useful in the treatment of this fatal and loathsome disease has hitherto been advanced; every acute case that has been recorded having ended in death, after much suffering and distress. The consideration, therefore, of this disease has become a vital question to the medical inquirer, not only on account of the singularity of the disorder, but from its having resisted every remedy which has been applied to it, either to mitigate the infection or to cure the complaint. Under these circumstances, the proposal of any means, although it may be supported but by a single fact, is worthy of attention; and I think I should be acting wrongly not to promulgate the following experiment.

The disease has been viewed by most writers as an affection of the Schneiderian membrane, accompanied by enlargement of the glands in the neighbourhood, and an extension of the complaint, by continuity, to the lungs. In most cases it is communicated by contagion, and tubercles in various parts (according to Dupuy) characterize and constitute the disease. The glandular implication and disordered condition of the absorbents, along with the frequent appearance of tuberculous matter in this affection, led me to think that iodine might be productive of benefit; and the result, so far as a single instance of success goes, gives proof of its power in this untractable and fatal disease, the animal upon which the experiment was tried having perfectly recovered. Having had no opportunity of conversing with veterinary surgeons, I have had no means of recommending the farther trial of the remedy; and never having seen a case in the human subject, of course my experience is but small, and by some may be thought unsatisfactory. The value of the remedy, however, will be tested by individuals whose means of

trial are superior to my own, and whose peculiar province it is to attend to disease in the lower animals: it is amongst these that the drug can be extensively employed, and a series of experiments can be instituted sufficiently numerous to prove the efficacy or the inutility of this important medicine.

The physiological differences which exist between the lower animals and man militate against the accurate investigation of the action of medicines, as applicable to diseases of apparently similar nature, generally; but in a transmitted disease, the product of morbid poison exciting in the two similar symptoms, when inoculated, and having an affinity to similar tissues in both, a remedy that has displayed power in one, may be expected to evince a like power in the other, under favourable circumstances for application.

Such considerations lead me to hope that a farther trial of iodine will be found efficacious in certain forms of the disease arising in man, as it has proved so effective in one of the worst forms of the affection in one of the lower animals: but the investigation of its properties in subduing the fatal progress of glanders will require close and accurate application, and an attention as to quantity, commensurate with the nature and violence of the attack. From the singular effect elicited in the experiment I am about to mention, I should be inclined to place more faith in iodine than in any other medicine yet employed; but I would suggest the necessity of giving it in large and repeated doses, and to persevere in its use until its action was fully displayed.

The horse, the property of my brother-in-law, was seized with what was pronounced to be glanders by the farriers who attended it, several weeks before iodine was recommended. The disease was then in an advanced stage, the horse having ulcerations of the nostrils, so far as could be observed, particularly in one of them, and enlargement of the glands under the jaws. The various means employed in such affections had been resorted to without effect, and the animal getting so weak as to be scarcely able to stand, was recommended to be shot. It was at this advanced period that I by chance saw it; and thinking it a good opportunity to try the power of iodine, I requested the groom to administer 150 drops of the *strong* tincture, three or four times a-day in water. The iodine was given regularly for the space of six weeks. Not fewer than 450 drops, and frequently 500 or 600 were exhibited daily. In a few days the benefit of the drug was evidenced, and at the end of seven weeks the horse was nearly well. The animal is, at present, the property of another person, and is considered by him to be one of the best in his stable.

Four years have elapsed since the horse was affected ; it is now perfectly well, and there has been no return of the complaint.

It may be asked, Was the horse really glandered ? Of this there does not admit a doubt. The two farriers who attended it, and others who pretended to a knowledge of the diseases of horses, were decided as to the nature of the disorder : and certainly, if the symptoms laid down by Youatt and others, can be depended on, the animal had confirmed glanders. Bloody viscid sanies flowed down and glued the nostrils ; and in the left one the membrane was studded with chanceroous ulcerations as far as the eye could reach. The glands under the throat were greatly enlarged, and the animal was attenuated and weak. The least motion affected its breath, and from the rapid progress of the affection there was no prospect of the brute living longer than a few weeks. The intractable nature of the affection led to the proposal of the animal's being destroyed, therefore the case for experiment could not be considered as the very best for trial ; yet the animal is a living instance of recovery from this dangerous affection ; and as no other drug was given during the exhibition of iodine, the action of the medicine was not influenced by any other. I am not so sanguine as to expect that iodine will be found to be a specific in the disease ; yet as it has not hitherto been exhibited in a mode to insure its effect, I think, from the successful proof of its powers related above, that it deserves attention ; and I cannot but express a hope that the farther trial of this active medicine (the properties of which require yet more extensive investigation) will be attended with a continuance of success shewn in man.

*Lancet*, vol. ii, 1836-7, p. 580.

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## CURSORY REMARKS

ON THE NAVICULAR DISEASE—THE EFFECT OF OIL OF TURPENTINE IN SPASMODIC COLIC—THE MEDICINAL POWER OF EMETIC TARTAR—THE THEORY AND TREATMENT OF THOROUGH-PINS AND WINDGALLS—BROKEN WIND ; ITS RARE OCCURRENCE IN FRANCE—THE DIFFERENT FEEDING AND WORKING OF FRENCH AND ENGLISH HORSES—THICK-WIND—CASTRATION ; THE PROPER TIME FOR IT IN DIFFERENT HORSES—ON CASTRATING THE RACE HORSE AND THE HUNTER.

*By* NIMROD.

I COMMENCE my second contribution to THE VETERINARIAN with remarks on the May number, and have reason to believe that I shall conclude it with the same, the subjects discussed being of more than common interest : but to any man who has a

soul, what, appertaining to that noble animal the horse—his pleasures, his pains, as well as his proud career—can be otherwise than interesting? In illustration of this assertion, allow me a short anecdote:—"I do not wonder," said a nephew of mine to me, the other day, in London,—a young barrister, by the way, who never had a horse in his life, neither had his father before him one, unless it were a coach-horse, or a hack;—moreover, he is a reading man, and a *writing* man as well, being the author of an excellent paper in the last Edinburgh Review,—“I do not wonder,” said this would-be Lord Chancellor, “at your writing, *con amore*, on the horse, for it is certainly a most interesting and delightful subject. I have lately been beguiling my leisure hours with reading (as I cannot ride him) *The Horse*, in the Farmers’ Series of the Library of Useful Knowledge, from beginning to end; and I must say I have been both pleased and instructed by the perusal.” However, to business.

Your own lecture on animal pathology, Mr. Editor, I shall, of course, pass over, being in itself far too scientific for me to offer an observation upon, further than to express my approbation of the clear and satisfactory manner in which the various points are handled, as well as the just conclusions drawn from them. The phenomena of animal life were once considered beyond the ken of human intelligence; but science will not be baffled in her pursuit after cause and effect, and the farther she penetrates into the beautiful labyrinths of nature, the more clearly she discovers those works of order and wisdom which characterize the productions of Omnipotence. The very first case, indeed, reported in this number,—one of navicular disease, by Mr. Spooner, although deprived of part of its interest by an unforeseen accident—is itself a happy illustration of this incontrovertible fact. The detection of this disease, and, as I apprehend, the only cure for it, *neurotomy*, present to my mind a completely new era in the domestic history of the horse, still, perhaps, but in its dawn.

The circumstance of the cow that retained her foetus is quite new to me, and is another instance of nature’s powers of relieving herself under untoward circumstances. Still, from the number of calves I have seen drawn from cows *by force*, I have been induced to marvel at the too common absence of what may be called “labour-pains” in these animals, sufficiently strong to cause parturition without such help. As Mr. Cartwright, who gives you this case, resides within sixteen miles of my native place, he may have heard of the mortality of calves by the disease called “planet struck,” which I spoke of in my last paper. For my own part, I have never seen or heard of it since, although I have occupied land in four different shires.

I am sorry to see (p. 244) a doubt thrown on the safety of administering oil of turpentine in spasmodic colic. I have always considered it a specific; that is to say, I never knew it fail in giving almost instant relief: and, in the course of my frequent absence from home, during nine years' residence in Hampshire, I always had a bottle of it in the care of my carters, at each of my farms, with written directions for use; my cart-horses being occasionally subject to colic, from eating bean-straw. In a hoven cow, too, I witnessed its excellent effects, *subsequent* to my giving vent to the gas, which did not appear to relieve her. Shamrock, the race-horse, but, when in my possession, a hunter, was very subject to spasmodic colic, which turpentine always cured, and in a very few minutes. Indeed, only a few months back, I was told my gardener's mule was dying, and dead he soon would have been, for he had been long under the severest paroxysms of this complaint. In less than ten minutes after taking two ounces of the oil of turpentine, he was relieved by a copious discharge of urine, and quite free from pain. Like all other powerful stimuli, however, it may do harm as well as good, and the question put by Mr. Spencer is well worthy of notice. But, speaking of diuretic stimuli, many of your readers in the midland counties, at least those of about my standing in life, will remember "Gibbs' urine balls," which were sold in pots, to be made up at discretion, and generally depending, for their size, on the size of the groom's hand. "Does he *flood* the stable?" was the question the old man used to ask the groom, to satisfy himself of their proper operation!! On being answered in the affirmative, his reply was, "That will do; *give him another in two or three days*, and I'll be bound you'll see no more of them swelled legs." It now and then, however, happened, that the horse itself was *non est inventus* from these overdoses. And yet this brings to my recollection two cases of spasmodic colic, reported in your number for February 1829, in which Mr. George Paris *began* with four ounces of oil of turpentine, and in less than twenty-four hours he gave to each patient a quart of oil of turpentine, and half a pint of spirit of nitrous æther and hartshorn, and with success. Mr. P. asserted, that this bold practice had been uniformly successful in obstinate cases. "Old Gibbs" would chuckle if he could rise again and hear this!

I read with interest the conflicting opinions of Mr. Gloag (V. S. 10th Hussars) and the President, respecting the value of tartarized antimony as a medicine, and shall look anxiously for the results of the former gentleman's experiments. This medicine has always been considered, amongst sportsmen, as a cleanser of a foul habit in horses, in doses of from one to three drachms, and also to dogs; but I know nothing of its properties in producing dia-

phoresis in the former, never having seen it so employed under my own observation. Did I not see, in one of your back numbers, tartarized antimony considered a specific in stercoral colic,—I think, by a French veterinarian? Allow me, however, to add the following remark here :—The description Mr. Gloag gives of his patient, when turned into the barrack yard, reminds me that I have never seen the complaint called the megrims, to which some coach horses are subject when running in the face of a hot sun, treated of in *THE VETERINARIAN*. I once saw a troop horse, in Ireland, that had received a mortal wound from a ball, describe a circle within a circle, precisely as this horse did, until he fell, with the exception of his ejecting blood from his nostrils at every act of expiration. It was somewhat of an awful sight.

Page 256.—I speak with diffidence, but it appears to me that the theory of thorough-pins and windgalls, and the general development of them, is very ably stated by M. Leblanc. I never had a horse lame from windgalls, and not many that were quite free from them, after a certain age; nor do I recollect having a horse stopped in his work from thorough-pins, although I had three in which they were apparent. Most old hunters, and especially such as have carried high weights, have them to a certain extent. Recent windgalls will, I believe, as M. Leblanc states, yield to “lotions, compression, and cold;” but it is loss of time—and here I speak from experience, for I have worked hard at this game—to apply them, or any thing else but an operation, either by fire or seton, when of any long standing. I never could do any thing with them by blisters; but I like the method proposed by M. Leblanc, of puncturing with the hot iron. At all events, it reads well.

M. Leblanc says, the manner of the formation of windgalls and thorough-pins is not clearly understood, and proceeds to a recapitulation of the causes of them. He is in favour of a distention of the envelopes of the synovial cavities, and doubts primary inflammation, &c. I will give him an instance, which is in his favour; it has been related by me before, when describing Lord Egremont’s racing stud. I saw five yearlings in the stable of “Old Brown” (as he is called), the trainer, of Lewes. They were just broke, and, of course, doing very gentle work. On seeing one of them, a filly, with both fore-legs in bandages, I naturally inquired the cause. “Why,” said Mr. Brown, “this is a very curious case. That filly was quite well and perfect when I shut her up (*for the first time*) last night, at nine o’clock, *in a box*. When I came to her this morning, I found her with thumping windgalls on both her fore-legs, produced by her pawing the ground with her feet, from being uneasy *at being by herself*.”

Page 112; subject matter, an Essay on Broken Wind, by Mr. W. Smith; read by the Secretary.—This, Sir, brings to my recollection a passage from your pen which made an indelible impression on my mind, and I have consequently no difficulty in turning to it. You commenced your 31st lecture (four years back) with the following words:—"I have hinted," you say, "at the disadvantages under which the veterinary surgeon labours in his treatment of the diseases of the chest, and particularly in the horse. He must not only subdue the malady, but he must remove all the consequences. He must *leave his patient perfectly sound*, or he has done comparatively nothing." I wish this were not the case, but such it is to the very letter; and either what is called thick wind or broken wind is always to be dreaded as the sequela of a severe affection of the chest. But I must return to the subject before me,—Mr. Smith's Essay on Broken Wind.

I am here introduced as having asserted, that I have not seen five broken-winded horses during upwards of six years' residence in France, which assertion I believe to be true to the letter; and it is in part corroborated by the authority of your President, who says (p. 116), that, in a journey on the continent of several thousand miles, he only saw one. Now this is really puzzling, but the *causa causæ* must exist, and should be sought for. Has the method of making the hay any thing to do with it? It here is not suffered to sweat in the rick, as the term is. In fact, a Middlesex hay-farmer would say it is spoiled before it is attempted to be ricked at all. Indeed, it has a hundred times annoyed me to see not only meadow hay, but clover and lucern, cocked in the very best condition, and then left in the field until the rain has penetrated, perhaps half a dozen times, to the very lowest stratum of the cock, and to the total destruction of the plant which was growing under it. Unless it has been that which I have had carried to my premises from the field, and that which I saw in the racing-stables near Paris, I have never smelt a sweet lock of hay after the month of October, since I have been in France. So much for the hay, which, *to appearance*, is only fit to keep cow stock alive through the winter\*.

\* A circumstance once came under my observation that led me to believe horses value hay by the flavour it imparts to the palate, and pay little regard to the fragrance of it, which chiefly depends on harvesting. I saw some beautifully-scented meadow hay put before nine hungry horses, which they instantly left off eating on some fiorin grass (*agrostis stolonifera*) being placed in their mangers. The fiorin grass had been harvested in November; had been merely thrown under a shed; had not an atom of fragrance; in fact, it was so far musty or mouldy, that a white cloud issued from it when stirred. It is the prevalence of saccharine matter that renders this grass so palatable to all sorts of cattle; and I have often expressed surprise at its not being

Then the oats—they are generally of a very inferior description to our own, but not so much exposed to the weather as the hay is, although it seems to me that a Frenchman too often troubles himself but little in his selection of a good sample of horse corn. Oats are oats with him, and the price is his chief consideration. Beans are by no means of general use in France—far from it; in fact, I have never seen them in the stables of French post-horses since I have resided in that country, although that is no reason why they may not be given. Mr. Spooner says, he believes, that, on the Continent, they do not give rack food; and the President, to whom he appeals to sanction his hypothesis, asserts, that “the fodder is always cut, and carried in bags from place to place.” Now, I have never seen a bushel, or a bag, of cut fodder for horses since I have been in France, nor have I more than once heard the chaff-box going. But observe this:—Every horse in work in France eats as much or more of clean wheaten straw as he does of hay! Query; Is this *one* cause of the absence of broken wind? I am inclined to think it is.

Again: What says Mr. Smith? “The treatment (palliative he means) of a broken-winded horse is very simple. It consists in keeping the stomach and bowels free from distention when the animal is sent to work.” Nothing in theory and in practice can be more true than this, and it applies to the sound-winded horse as well. The racer is set on the muzzle the night previous to his race; the hunter is kept somewhat short of hay and water the day before he is ridden with hounds; and the fast coach-horse never knows what a full belly is, unless he eats his litter. But the French horse, both coach and post-horse as well, always goes out *with absolutely distended sides from the contents of his belly*, although, as I have already stated, he very soon gets rid of the cumbrous load of bran, hay, oats, straw, and water. An intimate friend of mine, now resident in Calais, one of the best shots of the day, will corroborate this fact to any inquirer. He has been for many years in the habit of going to Montreuil, a town on the road to Paris, for the convenience of shooting, two or three times in the season, his shooting ground lying at ten miles distance. This he always rides *in an hour*, and the innkeeper, who supplies him with horses, is aware of that fact; nevertheless his ostler invariably leads the horses he is about to

more cultivated than it is on land that suits it (and that is land which will grow nothing else that would pay for cultivating), after the statements made public by Dr. Richardson, of its produce, which amounts to nine tons per acre. In Sir H. Davy’s table of the respective nutritive properties of grasses, only two exceed those of *fiorin cut in the winter*.

ride to the water-trough to drink *ad libitum* just before he starts. My friend's description of the effects are by no means amiss:—"I have plenty of shooting," says he, "before I reach my ground;" but still he says not a word about broken-wind.

Now what are we to infer from all this? I can infer nothing further than that, independently of the fact of working-horses in France being always stabled, and not subject to the in-and-out-of-door system, the hay, which has not been allowed to run into fermentation in the rick, must be more wholesome and less inclining to thirst and inward heat than that which has; that there is a cooling, aperient, and, consequently, *alterative* property in the wheaten straw; and that, despite of the water, the lax state in which the bowels of French horses are kept, to which, no doubt, the water, *ad libitum*, with the help of bran, which is freely given, adds, contribute together to ward off those diseases of the viscera which produce broken-wind. As for the pace, I agree with Mr. Hallen, of the 6th Dragoons, it has very little to do with it, generally speaking; although I am inclined to think, that were horses which never go beyond a walk, such as cart and waggon-horses, to be fed as carefully as hunters are, cases of broken-wind would not be so frequent amongst them as they are now known to be. I here, however, confine myself to food, as we are aware that a bad cold will occasionally end in broken-wind.

My own experience of broken-winded horses in work is very limited. I drove one two years in my gig, and he did me a great deal of work, although he once choked in his collar at the top of a hill, and dropped as if he had been shot. Still I had myself to thank for it, having driven him too fast, and it was after a dinner at a fishing party. His rate of speed, however, depended on his treatment previously to going to work—that is, on short commons and the muzzle. I knew one broken-winded gig-horse that could go ten miles an hour with ease, but he dropped down dead under a servant, who declared that he was riding him at the rate of only seven miles in the hour at the time. This was a horse called Halkin, a *ci-devant* hunter, the property of the late Mr. Roynon Jones\*, of sporting celebrity, and pronounced by Lord Sefton to have been the finest thorough-bred horse he ever beheld. I wish, Sir, you had his skeleton for observation†. Mr. Jones drove this horse seventy-two miles in one day, with only once baiting, after he was decidedly broken-winded. He was

\* This was the gentleman who sold a hunter called Hermit, to Sir Horace St. Paul, for 700 guineas in Leicestershire.

† Mr. Watt told me, a month back, that he had given the skeleton of Blacklock to the Museum at York.

very particular as to his diet, and kept him on very short allowance of hay; his corn always wetted; and a certain daily portion of carrots. He was likewise constantly ridden out with his greyhounds, which kept his pipes free. But the most extraordinary case of broken-wind I ever met with, and one which shewed the efficacy of *constant* work in such cases, was a grey mare I once drove in the Caermarthen (Irish) mail. She went, at wheel, from Llandovery to Trecastle, ten miles, in an hour and five minutes, apparently no more distressed as to her powers than the other horses; but the appearance of her nostrils shewed that she suffered, and that her lungs were in a bad state. The comparative ease with which this mare did her work I consider a good illustration of that passage in your 31st Lecture on Chest Affections, under the head of *Exercise*. It was a decidedly bad case, for there was considerable working of the flanks in this mare when put to the coach—that is, before she started from the door. She did her work in the night, however, which was much in her favour.

You say, in the lecture above alluded to, that *thick wind* depends on conformation. Nothing is more clear than this to all hunting men. I have heard that celebrated horseman over a country, Mr. Robert Canning, say, he has oftentimes been carried well by narrow horses, when the chest has been very deep; but never by those whose chests were not deep, however broad they might have been. Indeed, his famous horse, Favourite, which he rode nine seasons, was a very narrow horse, but brilliant over any country with his weight—17 stone.

I have had some experience of thick-winded horses, but not much, having generally endeavoured to ascertain this point before purchase. I rode a thick-winded mare, which I purchased of Dockery, the Jockey, for four seasons. She was naturally a slow mare, though useful to me on my tours, from her being up to all descriptions of fences. She could, however, go for an hour at nearly the top of her speed, and jump a big fence at the end of it, *provided she was properly prepared*. I always had the muzzle put on her at ten or eleven o'clock of the night before hunting, because she would eat her litter after she had eaten her hay; and once, when it was omitted by a careless helper, she nearly killed me at a small fence, with Mr. George Wyndham's hounds. Then, again, I served a long apprenticeship to something nearly allied to thick wind, for I had a horse fifteen years in my stable, during twelve of which he was affected with chronic cough. He always coughed after his water, and occasionally at other times; but we found him more or less given to do so in proportion to the clean or foul state of his body. After a dose

of physic he would not, perhaps, cough six times in a fortnight, except after his water, which appeared to have become, what is called, a trick. Of course, his diet in the stable was attended to, and in the fifteen years I had him I do not think he was fifteen days at grass, which I have reason to believe would have been fatal to him as regarded his wind, he being a very hard feeder. I shot him at twenty-two, a model of condition, but lame with one foot, which was rather suddenly stricken with disease—the navicular of course; but in those days we might as well have talked of the “*spification*\*.” This horse was never out of work since he went into training at Newmarket, at three-year old, and I think took as many purging and alterative balls as he had hairs on his mane and tail, but he was very rarely bled. Nothing, however, but “keeping him clean inside,” as the grooms say, with attention to his diet, saved him from being broken-winded many years before he came to his end. I should observe, there was no unusual symptom of flatulence in this case.

One more word about this horse. During the time I had him, he never ate a feed of corn without either staling, or attempting to stale, as soon as it was put into his manger. I endeavoured to break him of the trick; but if he was stopped in his first effort, he would try a second, and so on till he accom-

\* The following anecdote may amuse some of the juniors of your profession, and they may rely on the truth of it:—The late Sir Watkin Williams Wynn, kept, in his establishment at Wynnstay, a farrier of the old school, a mass of ignorance; but so little aware of that fact, as to have published a book on his art, for which the celebrated caricaturist, Mr. Henry Bunbury, furnished a frontispiece—and a capital one it was—with these lines under it:—

“Kind Sir, if you should lame your tit,  
Peruse what’s in these pages writ.  
The blockhead smith will plainly see  
Your horse is lame *above* the knee;  
Whereas these pages plainly shew  
’Tis ten to one he’s lame *below*.”

Among the wits of the day, in the habit of visiting Wynnstay at a certain period of the year, was the celebrated David Garrick, whom his brother wits passed off to this said farrier, on his first arrival, as the *only* veterinary surgeon in London. “Be sure,” said Sir Watkin to him (the farrier), “to have your sick stables in great order to-morrow, for they will be inspected by Mr. Garrick.” The following was the result of his visit:—“Bless me!” exclaimed Garrick, on entering the box of the third horse shewn to him; “a clearly defined case of *spification*!” “I have been long suspecting that it would end in that, your honour,” replied William Griffiths, for such was the name of this excellent servant, who passed his whole life in the services of the late Earl of Grosvenor and Sir Watkin.

plished his end, and he always voided some water. The practice, however, had no bad effect on his constitution, which may be said to have been "as hard as nails."

With respect to food, and its influence on the health and condition of horses, I consider that to be best which affords most nourishment in proportion to its bulk; and this for every description of horse. A view to economy, however, leads farmers to blow their horses out with any thing that will fill their bellies, and hence their disposition to colic, staggers, and other oftentimes fatal disorders. I have had no experience of turning horses into a straw-yard, but there is something awful in the term; and I do not wonder at Mr. Smith (p. 118) assuring us of its being prolific of broken wind, notwithstanding my belief that, from what I have seen in France, a certain daily portion of well harvested, and clean, wheaten straw is favourable to the health of *horses doing a certain description of work*.

The discussion in this number on Mineral Poisons is a most interesting one, and I wish the results could be more generally known than they are. An enterprising groom or coachman is bad enough. I remember a sister of the late Earl Courtenay telling me that one of the latter fraternity destroyed an entire set of coach-horses for her father: but an enterprising carter, ambitious of sleek coats, is more dangerous in a farm-yard than the murrain. I have, however, a word to say of arsenic. During the two last years of my residence in England, I had a mare which I rode as a hack, and she had but one fault. She was a very delicate feeder, and consequently I had difficulty in keeping her up to the mark, as my work was rather severe. On mentioning the circumstance of her shy feeding to a gentleman of your profession, on the Winchester race-course, and residing at Winchester, he assured me he thought he could remedy that failing by medicine, observing, at the same time, that it would contain arsenic. The offer being a gratuitous one, I could not ask for the recipe; but to cut my story short, the medicine succeeded to the full extent of my wishes. The mare ate all the food that was given to her; she filled out in consequence; and I appeal to Mr. Ben, opposite to the Angel at Hayes, on the Uxbridge road, who sold her for me to Mr. Wombwell, of George Street, Hanover Square, for £50, after I left England, whether she was not in excellent condition, and feeding as well as any horse in his possession. But the name of my benefactor!—why, for the soul of me I cannot recollect it; although, as a small return for his kindness, I lent him a volume of Mr. William Percivall's "*Lectures on the Veterinary Art*,"

which I never had an opportunity of asking for again; and he will much oblige me, should this meet his eye, if he will return it to your care.

The word wart, in this discussion, reminds me that I once saw a very large wart taken off the belly of a horse, in what I considered a neat and effectual way, but no doubt known to the profession. The operator dipped some woollen yarn, four double, into aqua fortis, and sawed it smoothly off. I had no opportunity of knowing whether it ever grew again. Nothing makes a horse dangerous in the stable so much as a sore wart, which I always previously had seen removed by the knife.

Page 134.—I agree with Mr. Goodwin on two material points, in his paper on Castration, namely, the period of the year for performing the operation, and the necessity of previous preparation, by physic, &c. The President, however, doubts a horse that had never covered bleeding to death from castration; but I can give him one fatal instance in a Belisarius colt, that had never covered, which I sold, after his being beat at Chester, to the celebrated Colonel Wardle. "I will make him run straight," said the colonel:—he had bolted on his last sweat, and the late Tom Carr, who rode him, *said* he could not make him run straight in his race. "I will have him cut *to-morrow*." "Surely not," was my remark, "without a preparation." However, cut he was, and dead he was in a very few hours, from hemorrhage.

I think castration, and also non-castration of horses, subjects of vast interest. In the first place, I am inclined to believe that in slow, heavy work, four entire horses would do the work of five geldings—no mean consideration. Then, again, how vigorous and brisk is the action of the rampant stallion to that of the emasculated animal which has been deprived of half his vital energy by the unsparing hand of man! For example, observe the public carriage and cart-horses on the great roads in France, and especially those leading from the metropolis of the country. How little they seem to value their work! How much, indeed, do they appear to be above it! It is objected to stallions for such purposes in England, that they would be unmanageable; but why are they not so in France? Some of them, it is true, are obliged to be muzzled on the road; but when kept within view of each other in the stable, they are equally quiet as any other description of horse. Some beautiful animals of this sort arrive in Calais every week with champaign, and I have made it my business to watch them.

But it is as regards the race-horse and the hunter that most interest attaches to the subject of castration, as likewise to the period of life at which it should be performed. I admit that

there is a certain risk attached to the castrating a well-bred colt, because, should he turn up a trump, his value ceases with his work ; but still I am decidedly of opinion that there are hundreds of colts that prove worthless when left entire, which would have made race-horses had they been castrated at a year old, and continued running on till seven or eight years old, instead of being thrown out of training as worthless at three. Of course I allude to that description of colt which is inclined to become too heavy for his legs, or “overtopped,” as the term is ; added to the fact of entire horses almost always requiring much more work to bring them to the port than either geldings or mares. With the exception of Doctor Syntax—and it is well known that he was never pressed in his work, being reserved for certain cups—those racers that have stood training for any considerable number of years have been either geldings or mares : witness Rebel, Euphrates, Habberley, Marksman, Philip, Victoria, my old mare Victorine, and a long list of others too numerous to mention. With respect to colts designed to make hunters, indiscriminate recourse to castration at the expiration of the first year is still more to be condemned. Those that are inclined to be weak in their necks, or deficient in any essential points, would be decidedly benefitted by not being cut until the second year ; at the same time that caution is to be observed when they incline to the opposite extreme—that is, being too heavy for their legs. The last colt I bred would not have been worth ten pounds, had he been cut at a year old, having been very weakly when dropped, and very badly suckled, being the produce of a very old mare ; whereas, by being left entire until the second year, he paid well for rearing. He was got by Mr. Theobald’s Norfolk trotter, out of a famous trotting hackney mare ; and having been sold at my sale, after I left England, to a butcher at Hartley Row, has distinguished himself, I have been told, as a trotter. As to the operation of castration, I have no remarks to make on that part of this subject, but I severely condemn the practice of having recourse to it, during the first year, without a regard to circumstances.

In reference to the often-discussed question, *why do we castrate colts intended for hunters?* I have an observation or two to offer. There is certainly a prejudice against stallions as hunters, and in part founded on experience. In the first place, accidents have happened from them in the field, by their lashing out their heels in a crowd, which the most forward riders occasionally find themselves in, at gateways, &c. Secondly, they are given to be sulky, and to refuse their fences ; and, lastly, a strange charge is brought against them, which I scarcely know whether

to admit or reject. It is asserted that, if a stallion tires at the end of an hour one day, he will tire, or appear to tire, at the end of fifty minutes the next, and so on until he "shuts up" just when he pleases. That there have been such cases, I doubt not, but I must suppose them to be rare ones. I have not only seen scores of stallions brilliant and *stout* hunters, but I could name many—Mr. R. Canning's Knowsley, for one—which I think would never have done what they did under high weights, had they not been stallions. Knowsley, however, was a *rara avis* in another way, for he attended markets, as a covering stallion, in the spring, and carried seventeen stone in the winter, for many consecutive years; but it is not one horse in a hundred who is fit to be trusted in a crowd, after having been thus used. I forget whether or no Jack-a-lantern covered when Mr. Thomas Asheton Smith rode him in Leicestershire (he was the sire of many good hunters); but what a clipper\* over a country was he! To shew, however, the danger of putting a stallion-hunter to a mare, I will relate the following anecdote of one, once in my own possession.

Some years back I gave Mr. Vevers, of racing, horse-breeding, and riding celebrity, a hundred guineas for a horse called Bolus, by Doctor, out of a sister to Grey Pilot, which he had made quite perfect as a hunter, after he had done racing. Now to shew the extreme docility of this animal, I need only mention two facts: first, having thrown off a lad at a fence, as he was riding him after me (as second horse), he pursued his career with the hounds until he overtook me; when, knowing the horse I rode, he "formed up" against him, as the dragoons say, so closely, that I jumped off my blown horse, and got upon him without touching the ground, leaving the former standing still until the boy came up to him. This happened about half way up Bredon Hill, with Mr. Horneyhold's hounds. Again, with Lord Seagrave's pack, the bridle rein of Mr. Washbourn, of Gloucester, got under his tail in a gateway, when a general kicking match was expected; but Bolus stood stock still until Mr. W. dismounted, and lifted up the tail which had shut down on his bridle rein, and held it as though it had been a vice. Now for the sequel to all this. I sold Bolus to Mr. Tynte, M.P. for Bridgewater, for two hundred and eighty guineas, and he rode him two seasons as the same identical quiet animal that he was whilst in my possession; but in the third season he became so

\* The word "clipper" reminds me that in a run over the Harborough country, Mr. Lindow on the Clipper, and Mr. Smith on Jack-a-Lantern, rode every man who started fairly out of sight: "Look behind you," said the former, at a check: "not a soul to be seen!"

vicious and dangerous in the field, that Mr. Tynte was obliged to part with him. Now it could not, I understood, be *proved* that Bolus had been put to a mare the summer preceding this change of his temper in the field, but I rest satisfied that he had been.

For my own part, were I to commence my life again, with my present experience of hunters, and to be a horse-breeder for the field, I should use great discretion as regards the castrating my colts. Those likely to be heavy-topped horses, I would cut at a year old; those short of muscle where it should be, I would defer till the second year; and such as were very promising indeed, I would not cut at all, until circumstances might oblige me to do so; being convinced that, in the present state of veterinary science, there is next to no danger at all in the operation, at any period of life.

## ON THE PRINCIPLES AND PRACTICE OF SHOEING HORSES.

[Continued from p. 213.]

ELASTICITY varies with the kind of horn at different parts of the hoof, in proportion to substance, hardness or softness, &c.; therefore the spring of the hoof must vary in power, and be stronger or weaker according to these states of the hoof.

The ordinary methods of shoeing are founded upon these states of the hoof; and it is very clear, that as loss of substance of horn must change the power of the spring, any mode of shoeing that does not restore it to the original power, must be contrary to the *true principles* of shoeing, and cannot, therefore, be called art, the imitation of nature without the means.

Although we may be acquainted with the structure and formation of particular parts of the foot, yet, it comes into the hands of the shoeing smith as a whole piece of mechanism, about which he cares little, so that he does not prick the sensible parts, and to avoid which he has no guide. *We will supply him with this.*

But what other interest has he in attempting to understand anything while the public will not pay for the extra time this will take? Will he get higher wages? No, no! He is told by his master, "that he must shoe so many horses a day; that the hoof and parts within it are composed of springs; that the *principles* of shoeing are, that the crust should bear upon the shoe only, and the sole never may touch it; yet the sole at the

toe may touch it, because it is not opposite sensible parts. That a principle does not admit of deviation;" yet gives *him* a glaring one, who well enough knows by his practice, "that the shoe must not be opposite sensible parts;" yet he is bound by custom, notwithstanding what his master says about the principles, to place a parallel plane shoe to the crust which is at the quarters and heels opposite sensible parts. It is impossible for the mechanic to reconcile these inconsistencies, and this is partly the reason why the shoeing of horses makes little advancement as an art. We speak of it here independent of workmanship, as certain individuals excel in this as in other handicrafts—the price is not the sole reason.

In the ordinary methods of shoeing the spring is given by weakening the sole, bars, and crust. This is something like the inconsistency of rendering carriages easy by very flexible springs, then binding up parts of the springs to render the whole less flexible, from fear of breaking the springs over bad roads, to the injury of the remainder of the carriage by percussion.

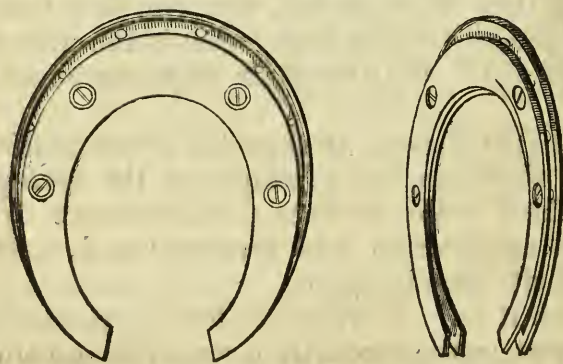
Percussion contributes in the horses' feet, under the ordinary methods of shoeing, to the injury of the feet, legs, and ultimately the bodies, from pain, till the poor animals are prematurely worked up, to the great loss of the public: yet these methods of shoeing are followed, from force of custom, for rent, taxes, rates, men's wages, &c. must be paid. Is it possible to supply any better mode at the same prices?

We are quite tired of seeing signs outside professing to shoe horses on "*most approved principles*," "*improved principles*," "*principle of expansion*," while the practices within are the ordinary methods. We believe a deception is not intended, but while the principle taught in our veterinary school, viz. that of the spring, or that of expansion, whatever is meant by it, is not the ordinary practice of the forge, what is the utility of humbugging us in this way? Why not stick up *practice* instead of "*principle*?"

We shall first endeavour to shew the *practicability* of the ordinary use of shoes on the principle of the spring. We must examine the hoof with reference to that science by which other machinery is constructed and repaired; and, first, as regards pressure opposite sensible parts, in order to settle that matter as we have shewn it up. If we pare a hoof perpendicularly outside, it at once shews us the inconsistencies we have pointed out. To determine this on the living horse, we lay a plane across the hoof, opposite the point of the frog, and from quarter to quarter, from which point we measure towards the toe, a little inclined to

the outside or wearing point, (as the foot is inclined) seven twenty-fourths of the diameter of the upper part of the hoof, on which; from a point two-twelfths posterior to the first point, we draw the segment of a circle: this shews us the bearing opposite and not opposite to sensible parts. In proportion as we pare away the base of the hoof, we diminish the former, and increase the latter; which is the case in the ordinary methods of shoeing, when the state of the hoof requires the heels of the shoe to be thicker than half the substance of the toe. It next shew us, that it is impossible that any action of the hoof can take place if a plane is opposed to another plane; and to admit of it, the plane of the crust at the heels and quarters must have space between it and the plane of the shoe, or the plane of the shoe will descend opposite these parts. The former is practised in the bar-shoe and some other modifications for particular cases. It is the practicability of making the latter, the plane of the shoe, descend at the heels and quarters for ordinary use, at ordinary prices, that we shall now examine. We have been in the habit of using a spring shoe for many years; have trained, hunted, and driven horses under these circumstances. Any *amateur* wishing to have one, has only to mention it to Mr. Long, the veterinary instrument maker (it cannot be seen at his house), and the smith who has made these shoes for us shall supply one. But we believe that, unless its application is attended to, it will fail like other modifications.

A spring shoe (see the annexed cut) with three removeable pieces, costs, in the first instance, from four to five shillings; but, of course, a spring shoe will outlast many sub-shoes; and we have found it more economical than the ordinary shoes, as the sub-shoes can be made of any substance, and renewed, instead of destroying the hoof by removing the spring shoe.



The accompanying spring shoe (the ground surface of which is here given) is steel, only as far as it is flexible. It is the asiatic shoe, the two parts of the shoe, instead of being fastened

together by nails, the holes of which are punched at the outer edge of the web, are screwed together by means of holes in the middle of it, and by which means a coarse fuller is formed for the nail-holes, the places of which are marked by black spots. We think these would be rarely required posteriorly to the beginning of the spring. There is a space between the spring and sub-shoe, seen in the side-view of the shoe, and which, when the shoe is cut off at the heels, the outer heel being shorter than the inner, leaves a greater space, and a longer spring for the latter. The sub-shoe is modified, in this instance, to shew that either a parallel plane thick or thin-heeled shoe can be applied, according to the state of the hoof. We need only say, that any other modification of foot or ground surface can be followed, besides other modes of nailing, clips, and many other minor points, not necessary to enter into, as long as these do not interfere with the *principle of the spring*. The power of the spring can also be modified; but as a general rule for this method of shoeing, we have recourse, as we said before, to that science which will assist us. Give us the diameter of any horse's hoof, at the upper part, and we will undertake to produce a spring shoe, of the requisite power, provided the workman is repaid for his trouble; but we are not blacksmiths, or in the trade, and we would as soon think of flying as to order such to be made for sale. We are independent of its success or failure, excepting the pleasure the former would afford us,—the latter will give us no pain.

We have now shewn, that the practical application of the principles of the spring, as taught at our veterinary school, would be the reverse of the ordinary methods of shoeing; we preserve all the hoof we can, and provide for the action of it (nor *laterally upon the principle of expansion*), but by means of a spring shoe. We do not mean to say that the shoe has the action of the hoof. We cannot give the downward action of the sole to the web of the shoe, nor the action downwards and outwards of the bars and heels, or the action of the sole against the hoof, producing the cone form; but enough action to prevent, in some degree, the percussion which happens in the ordinary methods of shoeing, where we have resistance to the spring of the hoof by the shoe, and percussion, notwithstanding the means taken to prevent it by paring.

[To be continued.]

☞ If there are any inaccuracies in this exposition of the spring shoe, we shall much regret it; but, really, from the rapid manner in which our correspondent seems to write, and the running of letters and of words so unintelligibly together, we and the printer have had a world of work to comprehend his meaning at all times. We begrudge not the labour, although some of it might have been spared. We only hope that we have been enabled to do him justice.

## DISPLACEMENT AND STRANGULATION OF THE SMALL INTESTINES OF A MARE.

*By Mr. T. F. PLOMLEY, V.S. Canterbury.*

I WAS sent for on the 2d instant, to see a cart mare, twelve years old, supposed to be ill with spasms of the bowels. She had bene turned out into a field, and was found ill at 12 o'clock. I had several miles to ride, and did not see her until 4 o'clock. She was lying down, frequently looking at her abdomen. Pulse 70; extremities and ears cold, and the belly considerably swelled. I made a few inquiries with regard to her symptoms. The bailiff then informed me, that she had been sitting upright for a considerable time. I immediately suspected what was the matter, and passed my hand up the rectum. She strained, and tried to dung; a small quantity of fæces came away, of a very dark colour; but I could not distinctly ascertain which intestine was displaced.

I extracted four quarts of blood, administered an injection, and gave three drachms of aloes in solution.

I saw her again at seven; pulse 100; respirations 24; very uneasy, getting up and lying down continually, looking round to her side, then sitting upon her haunches. I repeated the bleeding to two quarts; repeated also the injection, and gave three drachms of aloes. I also left one pint of linseed oil and two ounces of tincture of opium to be given in an hour, if she was not better. It was administered.

I saw her once more at 10 o'clock: the pulse could scarcely be felt. The muscles of the fore extremities trembled very much. I ordered a cloth to be put upon her, and her legs bandaged; repeating the injection and linseed oil.

*July 3d.*—I saw her at 6 o'clock. I could not count the pulsations by reason of their rapidity; they were also very wiry. She had stood up ever since I saw her last, and nearly in the same situation. I repeated the linseed oil and injection, and stimulated and bandaged the legs. She died at 10 o'clock.

*Examination after death.*—On laying open the cavity of the abdomen, the first intestines that presented themselves were the ileum and part of the jejunum. The colon on the left side and the small intestines were completely strangulated, and insinuated between the large ones, and twisted in a circular form. The small intestines and mesentery assumed a very inflammatory aspect; they were void of fæces, but distended with air, and the

internal mucous coat was covered with blood. A part of the single colon, I found very much thickened, but I did not attribute it to the same cause. The rest of the viscera appeared to be healthy.

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### ENLARGEMENT OF THE NECK IN LAMBS.

[We have received a letter from a gentleman in a far distant country, requesting our advice with regard to a frequent and fatal disease among his sheep and lambs. To us the disease is new: we can guess a little what it is, but we have never seen it. Will any of our readers, under whose observation it has fallen, oblige us and their brethren by telling us a little about it?—Y.]

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“THIS spring my South Down sheep looked somewhat ragged in their fleeces, but were in good condition until about six weeks before lambing, when, notwithstanding their excellent feed, they seemed to lose their flesh, as pregnant animals are apt to do. On the 20th of April I was enabled to turn them on a little grass.

“On the 25th my little flock (our correspondent is a farmer on a very large scale, but this was the first time that he had been enabled to try the South Downs. They had been drawn from the flock of Mr. Ellman, and exported by him) commenced lambing, and *every lamb* was deformed by *an enlargement* of the neck. It gasped once, or twice—struggled a little, and then died, although perfectly and excellently developed in every other respect. In this way I lost twenty-three lambs—two only living a miserable existence.

“The enlargement varies a little in position up and down the neck, and embraces the thorax more or less closely, and varies in size from that of a walnut to a hen’s egg: the lungs had evidently never passed any blood through them.

“I first thought that it was *goître*; but it did not correspond with the situation or appearance of that disease. I attributed it to something peculiar in the water; but on communicating with other breeders, I found that flocks drinking the same water had, in two successive seasons, produced lambs with and without this defect; and I also found that it had appeared where well-water and also where springs, and brooks, and swampy water had been used: but, with one exception only, I found that, in all cases in which this enlargement of the neck had taken place, the ewes had been grained (had corn given to them, Y.) and that, too, pretty highly. What to do with this one exception I do not

know. One of my ewes seemed to me to be consumptive, and I kept her in a stable, and fed her with whatever she would eat, oats, oil-cake, hay, turnips, or tea-leaves—no very scientific feeding, you will say. She retained her strength until the lambing time came, and then she brought me a lamb with an enlarged neck.

“The tutor in my family amused himself with feeding, in a small yard close by mine, half a dozen nice ewes. He fed them with poor hay, but the best oats; and they had nothing but snow-water to drink until late in March, when they drank of the same swamp-water as my sheep. All their lambs came perfect.

“I sold six full-bred Merino sheep and six grade (q<sup>y</sup>. half-bred ?) sheep that were fed with a quart of oats per day, and drank at a spring. All their lambs came with enlarged glands.

“I will only remark, that of the lambs that did well, the swellings seemed loose and almost pendulous; yet the breathing was difficult and spasmodic, and there was mucous discharge from the nostrils. One lamb with these swellings died very fat, and in another the swellings have much decreased.

“Within the last twelve months, I find that no less than six of my ewes have enlarged necks, and which does not seem to inconvenience them in the least; they, however, are not ewes that carry much flesh. The old sheep shewing this enlargement has a little puzzled me:”

## THE STRUCTURE OF THE MEDIASTINUM IN THE HORSE.

AT the sitting of the Royal Academy of Medicine, Dec. 6th, 1836, M. Bouley, M.V., called the attention of the Academy to the structure of the mediastinum in the horse. (In France the veterinary surgeon is a frequent and welcome visitor at these assemblies). “Pleurisy in the horse,” said he, “is a serious and frequently fatal disease, if it is unskilfully treated or neglected at the commencement. The rapid and long-continued exertion which is often exacted from this animal, the changes of temperature to which he is exposed, and the consequent change in the function of the perspiratory organs, afford a satisfactory explanation of the frequency of this disease; but they do not elucidate the cause of its serious character.”

M. Bouley occupies himself in searching for this cause, and he believes it to be found in the peculiar organization which the mediastinum of the horse presents. The posterior mediastinum in that animal has neither the appearance nor the texture of

the pleura. It is thin, diaphanous, tense, and composed of exceedingly slender fibres, crossing in every direction, and forming a transparent tissue, having considerable resemblance to the construction and web of lace. The minute spaces which this membrane present, crowded together, and scarcely to be distinguished in the human subject, enlarge, in course of time, by the sole act of respiration, until at length numerous rounded and irregular openings manifest themselves here and there, and establish a direct communication between the two pleural cavities. This was easily to be seen in some specimens which M. Bouley produced before the Academy.

From this natural construction of the membrane, it clearly results that pleurisy can never be a purely simple disease in the horse; that both pleural sacs, if not equally, are actually affected at the same time, and, consequently, that this must always be a more serious and dangerous disease in the horse than in man, in whom inflammation of the membrane of both cavities is rarely observed.

To these anatomical facts M. Bouley added, that whenever hydrothorax existed in the horse, auscultation indicated that the fluid stood at the same height in both cavities, and that the operation of paracentesis on one side of the thorax would effectually empty both sacs of their contents. He thought that, in this last case, the natural openings of the posterior mediastinum must be considerably enlarged, and that sometimes the membrane must have been completely torn. He did not state this as a fact that he had witnessed; he only offered it as a conjecture. He proposed to make some researches on the point.

Professor Delafond observes on this, that he is completely of the same opinion with M. Bouley, as to the cause of the serious character of the double pleurisy of the horse; namely, the passage of a portion of the effused fluid from one pleural sac to the other, across the posterior mediastinum. He has, indeed, recorded this structure of the mediastinum, and the accidental ruptures of it caused by the effused fluid, and thus producing a double pleurisy.

M. Bouley inquires, whether the natural openings in the mediastinum are simply enlarged, or whether this frail membrane was torn by the pressure of the fluid. He could assure this distinguished practitioner that, in these cases, lesions of the mediastinum are frequently to be found. He has records of ten cases in which it has occurred in horses dying either from chronic or acute pleurisy. In chronic pleurisy, however, these openings are not always to be found, although there may be effusion in both pleural sacs. He has inserted one case in the

Récueil, and another has occurred to him lately, in which the posterior mediastinum was doubled by thick, false, organized membranes, which gave to this partition a thickness and a power of resistance that effectually prevented it from rupture.

These cases, however, he considered as exceptions to a general rule; nevertheless, they somewhat contradict the assertion of his *confrère*, that "the operation of paracentesis on one side of the thorax would effectually empty both sacs of their contents."

In conclusion, we ought always, by auscultation and percussion on both sides of the thorax, to ascertain the existence of effusion on both sides, and the necessity of puncture on both sides.

*Réc. de Méd. Vét., Février 1837.*

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[This is a most interesting and important subject, and we earnestly invite our correspondents to the consideration of it.—Y.]

Since translating the above, we have been reminded that Professor Rigot discovered a similar structure of the mediastinum of the horse in 1825-6. It is contained in the *Récueil* of June 1827. The following is the account of it:—"M. Rigot has discovered an anatomical structure in a great number of horses; which, according to him, explains the serious nature of hydrothorax in the horse. It consists of a communication between the two pleural sacs, by means of little apertures in the posterior (the great) mediastinum, separated by filaments, and giving to that membrane the appearance of a piece of gauze."

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## ON HOCK LAMENESS.

*By Professor DICK, Veterinary College, Edinburgh.*

IN your last Number I read a letter from Mr. Spooner, of Southampton, in which he describes what appears to him to be the cause of many cases of obscure hock lameness, and accuses veterinarians generally because they have not before noticed his papers upon the same subject. I have, therefore, with some degree of reluctance, been induced to offer a few remarks upon the subject, which would not, however, have been made had it not been for the kind of challenge given. I read the first case he gave with some degree of surprise, but allowed it to pass, thinking some one else would have noticed it; and feeling that any remarks from a nominal Editor might have interfered with

discussion ; but now that I am only a nominal assistant, I have less scruple in entering on a debate, or rather, pointing out an error into which I am inclined to think Mr. Spooner has fallen, by describing what is a healthy structure as a diseased one. I do this the more readily, because Mr. Spooner has said that "the existence of this disease ought either to be acknowledged or denied ;" and I now decidedly deny that what he describes is a diseased alteration of the structure. What is it, then ? will undoubtedly be asked ; and my answer is—the natural and necessary construction of the joint. The cavities corresponding to each other, and having the appearance of excavations, are sulci, containing the synovia to supply the extended articular surfaces, and which is rendered necessary by the peculiar sliding motion which the bones have on each other in that joint.

They are, in fact, the "oil wells or cisterns," to retain a supply of synovia, and to prevent the friction which Mr. Spooner supposes to be the cause of them, and are to be found in one form or another in all healthy hock joints, and in every true joint of the body. In many cases, however, they do not appear in the centre of the joint, but are placed at the side, and they have the appearance of a notch within the boundary of the synovial membrane on the edge of the articular surface, many of which never attract notice, but are, nevertheless, as important as a process is for the leverage of a muscle, or a foramen or notch for the transmission of a nerve or vessel, or any other organ. In other cases, the cavity formed by two bones forming one portion of a joint which is moved upon by another, produces the same effect—the coffin and pastern joints for example ; they are, in fact, as necessary in the animal machine, as similar cavities are in the bushes, or on the axle of the wheels of any well-formed machinery ; and if my observations are correct, are found commonly in the situation Mr. Spooner describes in the best formed hocks.

It must not be supposed that I am contending that friction, or even ulceration, does not take place in the articulation formed by the tibia and astragalus ; quite the reverse : there, is perhaps, nothing more common than to observe the effects of friction on the articular surfaces of these bones ; but then it is quite different from what has been described by Mr. Spooner, and is always attended by symptoms which sufficiently distinguish it even prior to death ; and those symptoms the reverse of what Mr. Spooner points out. In all cases of "bog spavin" this exists in a greater or less degree. In those where there is but a slight enlargement or distention of the capsular ligament without tension, there will merely be found slight grooves or semicircular

lines extending along the articular cartilage of both bones in the direction in which the bones move, the depression in one corresponding to a ridge in the other, unless, as in some rare and severe cases, some portion of cartilaginous or bony matter has been detached, and given rise to deepened ridges in both; and these ridges may be multiplied in an indefinite degree, both in number, depth, and extent. In some cases the cartilage becomes abraded, and the bone polished by friction, like a piece of enamel; then pathologists say the "porcelainous deposit" has taken place: that is, they suppose that a peculiar secretion has been deposited there to resist the friction.

It will be found, however, that this is merely the effect of friction, which is alone proved by rubbing one bone with sufficient force against another, when the same appearance is readily produced; and further, if the diseased alteration of the direction of the motion of the joint is continued, it will be found that this polish of the bone becomes, at length, worn out, and the cancellated structure is exposed; yet all this goes on before ulceration takes place, and it is only in the last stages, and in cases where there is great lameness, that ulceration does take place: indeed, so rare is it, that I am not satisfied that I have yet seen a case where ulceration could be said to have taken place in this joint, unaccompanied by an "open joint," or some external injury.

In all cases of "bog spavin" I have stated that there are more or less marks of friction found on dissection; but this is, in many cases, not attended by lameness, because what we are in the habit of considering as constituting *the disease*, is the means which nature has provided to diminish the friction, and to prevent bad consequences; the accumulation of synovia serving to lubricate the joint more completely than the ordinary quantity would have done; consequently in many cases we find a horse with "bog spavins" and "thoroughpins" going quite sound, and continuing to do so for years. I should here distinguish (were I writing upon all the diseases of the hock) the occurrence of "thoroughpin" without "bog spavin," from "thoroughpin" occurring with "bog spavin;" because some may say, on examining hocks with "thoroughpin," that they have not found what I have described; but it will be understood that, wherever there is "*bog spavin*" there we shall find *friction*. It will further be found that, as the friction is increased by increase of work, there will be a proportionate increase of synovia, until, as in some cases, where the labour is excessively severe, lameness takes place, and the capsular ligament is distended and thickened so as to produce pain and interruption of motion, in a great mea-

sure, by the very accumulation of the fluid intended to facilitate motion; thus, another effort is made by nature to relieve the parts, and where the ordinary means fail a new action is set up. The action is still farther limited, the pain is increased by still using the parts, and when it cannot be longer continued without injury to the whole animal frame, as a last resource we even find that anchylosis of the joint takes place.

If Mr. Spooner only reflects on the position of the cavities he describes, he will see that the situation of them renders friction on those parts impossible: they cannot come in contact with each other; therefore if any friction were to occur it must be between the parts beyond the boundaries of those cavities, as the exertion must leave all the pressure to fall on the other portions of the articular surfaces, which, if continued, must have soon given rise to the same appearances, that is, supposing these cavities to have been the result of friction producing ulceration. When friction arises in cases of "bog spavin," it is commonly the effect of some injury done to the ligaments of the hock, or slight interruption of motion from exostosis, and generally interfering with the ligaments. But where, it will again be asked, is the seat of obscure hock lameness? When the seat of lameness is obscure, I think it were better to inquire simply, where is the seat of the lameness? because, if the seat is obscure, why refer it to the hock? May the seat not be mistaken? But I have not time to enlarge, and shall therefore conclude by stating, that in and about the hock, besides lameness from friction, which sometimes occurs, or without it, which I have already noticed is always attended with obvious symptoms, spavin, in a variety of forms, that is, including all bony enlargements and all cases of anchylosis of the bones about the hock, may produce obscure lameness: but these, in all their varieties, are more likely to produce obscure hock lameness before the deposit or ulceration takes place than afterwards; and hence may often be found, on dissection, the appearance of morbid action having been going on in one, two, or all of the bones, and on one, two, or all of the surfaces of the bones of the hock, giving rise to various degrees, and, sometimes, peculiarities of lameness, which, had I not already extended further than I first intended, I would have described.

## THE VETERINARIAN, AUGUST 1, 1837.

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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WE acknowledge, with satisfaction and with gratitude, the letters of several of our brethren on the subject of the proper constitution of a veterinary examining committee, and we hesitate not, at their request, to state our views, or rather to condense the sketches which they have given, of that which ought to be the character of our national school. This is not the time to open any question that can lead to angry discussion. The last year has taught us the value of union, and has contributed more than any preceding one to advance the improvement and to raise the character of the veterinary profession ; but to every proposition in the short statement which we append, he who loves the art that he professes will yield his cordial assent, and golden opinions would they buy from all classes among us, who, having the power thus to contribute to our weal, exerted themselves in effecting that which would be as honourable to themselves as gratifying to every practitioner :—

1. The bonâ fide working out of the original plan and promise of the Institution—the instruction of the pupil in the Anatomy, Physiology, and Diseases of every animal that is likely to come under his care.

2. Within the walls of the College, and where alone the student can to any good purpose obtain such knowledge, lectures on Chemistry, Pharmacy, Materia Medica, Botany, the general principles of Agriculture, and other auxiliary sciences, *and with an especial view to their application to the practice of the veterinary art.*

3. In addition to the occasional remarks which may be elicited in the morning round through the hospital, a regular clinical lecture, in the theatre of the College, on every unusual or important case.

4. A strict post-mortem examination, in the presence of the whole class, of every animal that dies in the College Infirmary.

5. The period of attendance at the College by those who either have not served an apprenticeship to a veterinary surgeon, or been educated and regularly inured to practice under their own parents or relatives, certificates of which shall be produced, extended to two years, and, in consideration of the increased means of improvement which the student will possess, the admission fee, including in it the honoraria to all the professors and teachers, doubled.

6. The medical committee, as at present constituted, to examine into the physiological knowledge and general acquirements of the candidates for diplomas; but a practical committee, consisting of veterinary surgeons, and of whom the professors form an essential part, appointed in order publicly to examine the pupils as to their practical knowledge of veterinary surgical anatomy; the nature and the treatment of the diseases of animals; the mode of conducting the various operations, and all the manipulations of the hospital, the stable, and the forge; the signatures of the majority of those who were present at both examinations being necessary to the obtainment of the diploma.

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We again congratulate our readers on the acquisition of our friend Nimrod as a correspondent. His remarks on broken-wind we regard as exceedingly valuable; and he who is, what every veterinary surgeon ought to be, a horseman as well as a practitioner on horses, will duly estimate the pertinent and humorous, and sometimes rather close-cutting observations which he makes with regard to several points in which we have hitherto been a great deal too deficient.

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We tender Mr. Thompson our warmest thanks for this valuable contribution to veterinary pathology. From any and every quarter information would be welcome on a subject so intimately connected with the interests of our employers and the character of our profession, and most welcome from those to whom, in the commencement of our career, we were so deeply indebted.

Some few experiments have been made on the power of iodine over glanders and farcy, but they have not been instituted on any

systematic plan, nor followed up with a degree of zeal worthy of such a cause.

My talented and excellent friend, Mr. Percivall, was early in the field. He had a horse in his infirmary (in the spring of 1833) evidently farcied. A chorded chain of connexion could be felt between certain pustules that had appeared upon him. Nearly six weeks from the first appearance of the farcy, traces of glanders, which could not be mistaken, appeared in the right nostril, and he was put under the influence of iodine. Three grains of the mineral were given morning and evening. Two days afterwards the dose was increased to five grains twice in the day; and at the expiration of a fortnight each dose had been increased to half a scruple. This plan of treatment was pursued two months; but the disease progressed from bad to worse, until all hopes of benefit derived from the iodine having totally vanished, the patient was destroyed.

A little earlier in the same spring he had a horse with pure farcy. The patient had calomel and aloes, and diuretic medicine daily; mercurial friction was employed, and, still later, the power of the sulphate of copper was tried; but the horse got worse and worse. Two months nearly had now passed, when Mr. Percivall determined to try the effect of the iodine. He began with five grains daily, the disease appeared to be rapidly gaining ground, and a week after the commencement of the iodine, the dose was increased to ten grains daily. Still the malady was evidently progressing; the dose was then rapidly increased to a scruple. The horse began evidently to amend, and in three weeks from the commencement of the full dose, and six from the first exhibition of the iodine, and thirteen from the appearance of the disease, the farcied swelling had subsided, the sores had quite healed, and the horse was sent to work. Mr. Percivall very candidly adds, that "the green diet" (for he was turned into a small field when he began to take the iodine) "might have much contributed to the cure." It might so, but the chief praise is evidently due to the iodine.

There is nothing contradictory in these two cases. Farcy, which is occasionally under the control of several of our medi-

cines, yielded to the influence of the iodine, and after it had set at defiance the power of other means and appliances. Glanders, which seems to laugh to scorn the efforts of the veterinarian, resisted the supposed power of this new medicament\*.

In the autumn of the preceding year, Mr. Simpson, then of Southampton, had a patient with the left submaxillary gland swollen to the size of an egg, hard, and perfectly adherent to the bone, with occasional discharge of pus from the left nostril. This was a very suspicious case; but he could not bring himself to believe that it was one of glanders, for the discharge was occasional and irregular, and not the slightest ulcer could be discovered in the nostril. He had been a pupil of mine, and afterwards a resident in my house, and we had both experienced the power of iodine over glandular swellings. He determined to put it to the test here. An embrocation composed of tincture of iodine with compound soap liniment was well rubbed into the tumour two or three times a-day, and six grains of iodine given morning and night. This treatment was pursued more than a week, but the discharge continued, and the gland had considerably increased in size. Still, not believing that it was a case of glanders, he applied a strong blister to the tumour, and repeated it three days afterwards. Fluctuation was then evident: he punctured the tumour, and about eight ounces of purulent matter escaped. A poultice was applied for a few days, the discharge from the nose gradually ceased; the tumour quite disappeared, and the animal went to work.

This case, to a certain degree, bears on the point at issue. It says nothing with regard to glanders, but it proves, at least in the short space of time during which it was used, that iodine has no effect in diminishing enlargement of the submaxillary glands\*. At the same time, under the treatment of Mr. May, of Malden, another and a highly valued pupil, the parotid glands in a horse that had become enlarged to such an extent as to render tracheotomy absolutely necessary, daily and plentiful embrocation with the same compound of iodine and soap liniment perfectly reduced the swelling.

In the following year my friend, Mr. Karkeek, throws fresh

\* "Veterinarian," vol. vi, p. 381.

\* "Veterinarian," vol. vi, p. 38.

† Vol. vi, p. 254.

light on the subject. He had a patient with chronic enlargement of the maxillary and parotid glands. The disease had existed during two months, and the tumours were hard and scirrhus. Setons, strong mercurial ointment, and blisters, had aggravated the evil. He had recourse to iodine. He gave it internally in doses of five grains daily, and he ordered the iodine ointment to be well rubbed in. This was continued during three weeks, the iodine being increased to ten grains daily, but without the slightest effect. The liniment used by Messrs. Simpson and May was then had recourse to, and the horse was turned to grass, but the glands remained as large and as hard as ever.

Mr. Karkeek, determined not to be baffled, had recourse to another form of iodine, the hydriodate of potash, both in the form of ointment and of ball. The ointment was made of its full strength, being in the proportion of a drachm and a half of the hydriodate to an ounce of lard, and the balls contained at first two grains, which were rapidly augmented to twelve. Both were used twice in the day. In a fortnight the glands had begun to soften, and before the expiration of a month they were reduced to their natural size.

In our next number we will inquire into the experience of our continental brethren on the effect of iodine in glanders and farcy; and, in the meantime, we entreat our friends in every part of the kingdom to favour us with the result of their experiments.

Y.

### Extracts.

#### RULES FOR THE PREVENTION OF THE ROT IN SHEEP.

[Long observation having proved that an unusually wet and cold winter is generally succeeded by a most destructive rot among sheep, the Prefects of some of the departments of France, alarmed by the almost unprecedented humidity of the last winter, applied to the veterinary surgeons in their respective neighbourhoods for a code of preventive or sanitary regulations, in order either to prevent the appearance of this disease, or, at least, to limit its murderous effects. *Le Memorial de l'Ouest* (the Western Remembrancer), contains the account of one of the

French veterinarians, M. Plasse, of the department of Deux Sèvres, to this call. The management of the sheep is so different in France and England, that few of our agriculturists would be able, scarcely in the slightest degree, to follow out the plan laid down by the French veterinarian, yet the perusal of it may be interesting, and some good and practical hints may be derived.—Y.]

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1. THE sheep must be kept in houses sufficiently close to excite and to keep up the functions of the skin.

2. They should seldom be turned out for any continuance to graze, or, at least, the most favourable weather should be chosen for it, and all low and moist ground should be scrupulously avoided. In default of pasture of any other kind than this, the sheep should be fed in the sheep-house, and only occasionally taken out for the purpose of exercise. In such seasons the sheep may emigrate to a safer and more suitable pasture, and that may be easily and advantageously accomplished in most districts.

3. Before they go to pasture, and on their return, dry food should be given to the sheep, and, in preference, the hay from artificial meadows. If it should so happen that there is nothing but straw for forage, its want of nutritive matter should be supplied by bran, or corn, &c.

4. Among the long or tubercular-rooted vegetables, potatoes, beet-root, Jerusalem artichokes, &c., should be avoided; and those only should be admitted which contain an aromatic or stimulant principle, as the carrot, the parsnep, the turnip, &c.

5. They should be allowed to drink, twice in the day, water at the temperature of the well, whatever may be the kind of food, but never to satiety; and iron-filings should be put in the water in the proportion of a pound to a gallon. The iron should be left exposed to the air when the buckets are empty, and which should be filled again an hour before the watering time arrives.

6. On every third day there should be given, morning and night, about ten pounds of dry bran, mixed with half a pound of culinary salt; to which should be added, six ounces of aromatic plants cut small, as thyme, sage, juniper, rosemary, lavender, bay or orange-leaves, to which must be added five ounces of the green anise, and of fennel, and of coriander. This will be sufficient for thirty sheep.

These directions should be carefully followed during a month or six weeks with regard to all the sheep that have been exposed to the unhealthy influence of the season or the pasture.

These precautions should be rigorously observed until that time arrives so critical, the shooting of the grass, when they may be permitted to go to pasture; dry meat, however, being for a little while given to them alternately with the green. A reasonable period having elapsed, they may be left at full liberty.

*Mém. de l'Ouest, Jan. 1837.*

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#### GLANDERS.

GLANDERS, the nature of which is yet a problem, is it contagious? Huzard says yes! with Solleysel, La Guirinière, and Gaspard Saunier. Camper, Godine, Magendie, Dupuy say no! La Fosse says yes and no! Coleman, Delabere Blaine, and Dutz neither say yes nor no! Chabert, after having during his whole life maintained the contagiousness of glanders, has retracted this opinion in his old age.

Last of all comes M. Galy, the great partisan of non-contagion, and the inventor of a new mode of treatment. He proposed to the Minister of War the institution of certain experiments, which was accepted. Certain horses labouring under glanders were mixed with others perfectly sound on the farm of M. Gelinier. The experiment was so far successful that, on the proposition of M. de Champagne, Inspector General of the Studs, it became a question to reconsider the ordinance of the 16th of July 1784, which required the destruction of all glandered horses.

M. Dreux, proprietor of the park in which this farm was situated, saw, as he thought, in these experiments an infraction of the conditions on which he let this farm. The question was brought before the first chamber of the Court Royal, which decided that a farmer cannot bring on his grounds any horses labouring under glanders, in order that they may be submitted to treatment, without a breach of the terms of his lease, and without the security of a good housekeeper that recompence shall be made for the mischief that may be done.

*Le Droit—French daily paper.*

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#### A LIST OF PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS.

*July 4, 1837.*

Mr. J. Mulliner, Ellesmere, Shropshire;  
Mr. G. Doyle, Kildare, Ireland.

*July 24, 1837.*

Mr. John Jones, London;  
Mr. G. J. Sparrow, Bromley, Middlesex;  
Mr. A. J. Hutchings, Lewisham, Kent;  
Mr. W. Chandler, Bishop-Stortford, Herts.

# THE VETERINARIAN.

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## ANIMAL PATHOLOGY.

By Mr. YOUATT.

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### LECTURE XIV.

#### *Rabies in the Dog.—Symptoms continued.*

AT the close of the last lecture I was describing the strange depravation of appetite in the rabid dog, and extending to fluids as well as to solids—the eagerness with which he would lap his urine and devour his excrement, and I mentioned these, and again refer to them, as symptoms that will never deceive you.

*The salivary Discharge.*—A great deal has been said of the profuse discharge of saliva from the mouth of the rabid dog. It may be readily imagined that some change will take place in the quantity as well as the quality of the salivary discharge. All the glands concerned in the secretion of saliva are increased in bulk and vascularity, and the sublingual glands wear an evident character of inflammation. The salivary discharge is increased in the early stage of the disease, but not so as to be recognized as a symptom of rabies—not so as to be, in a great number of cases, at all noticeable. It accompanies the early stage of the disease. It never equals the increased discharge that accompanies epilepsy or nausea. The frothy spume at the corners of the mouth is not for a moment to be compared with that which is evident enough in both of these affections, and it is a symptom of short duration—it rarely or never lasts more than twelve hours. The stories which are told of the mad dog running along with his mouth covered with foam are altogether fabulous; the dog recovering from or attacked by a fit may be seen in this state, but not the rabid dog. Fits are often mistaken for rabies, and hence the delusion.

*The viscid Saliva.*—The increased secretion of saliva soon

passes away—it lessens in quantity, it becomes thicker, viscid, adhesive, glutinous. It clings to the corners of the mouth—it probably clings more annoyingly to the membrane of the fauces. The human being is sadly distressed by it—he forces it out with the utmost violence. He furiously attempts to detach it with his fingers, or utters the falsely supposed bark of a dog in his attempts to force it from his mouth. This symptom occurs in the human being when the disease is fully established, or at a late period of it. It is an early symptom in the dog, and it can scarcely be mistaken in him. When you see him fighting away with his paws at the corners of his mouth, do not suppose that a bone has stuck between his teeth, and goodnaturedly hasten to relieve him from the inconvenience. If all this uneasiness arose from the presence of a bone his mouth would be permanently open, instead of closing when the animal for a moment discontinues his efforts; and if, as you watch him, the efforts become more and more furious, so that he loses his balance and tumbles over, there can no longer be any mistake; it is the saliva becoming still more and more glutinous, irritating the fauces, and threatening suffocation.

*Insatiable Thirst.*—To this naturally and rapidly succeeds insatiable thirst. The dog that still has full power over the muscles of his jaws and his tongue scarcely knows when to leave off lapping; and the poor fellow labouring under the *dumb* madness, as it is vulgarly called, and presently to be described, and whose jaws and whose tongue are paralysed, plunges his muzzle into the water-dish up to the very eyes, in order that he may get one drop of water into the posterior part of his mouth, to moisten and to cool his dry and parched fauces. Hence, instead of this disease being characterised by the dread of water in the dog, it is often marked by a thirst perfectly unquenchable. Twenty years ago this assertion would have been peremptorily denied. Even at the present day, I do occasionally meet with those who ought to know better, and who will not believe that the dog that fairly, or perhaps eagerly, drinks, can be rabid.

*History of a Case.*—*Jan. 22d, 1815.* A Newfoundland dog, belonging to Mr. Bathe, of Piccadilly, was supposed to have swallowed a penny-piece on the 20th. On the evening of that day he was dull, refused his food, and would not follow his master. On the 21st he became restless, continually shifting his posture, and panting. He would not eat, nor would he drink water, but followed his mistress into her bed-room, which he had never done before, and eagerly lapped the urine from the chamber-pot. He was afterwards seen to lap his own urine. To-day his restlessness and panting have increased. He will neither eat nor drink, and he has made two or three ineffectual attempts to

vomit. There has been no evacuation from the bowels since the 19th.

At 5 P.M. he was brought to me. The eyes were wild, and the conjunctiva considerably inflamed: he panted quickly and violently. There was considerable flow of saliva from the corners of his mouth, but neither his lips nor tongue were discoloured. He was extremely restless. He did not remain in one posture half a minute. There was an occasional convulsive nodding motion of the head. The eyes were wandering, and evidently following some imaginary object. He was quickly recalled from his delirium by my voice or that of his master; but in a moment he was wandering again. His ears were erect, and he listened attentively to every sound. He had previously been under my care, and immediately recognized me, and fondled upon me, and offered me his paw as he had been accustomed to do. His bark was changed, and seemed to have a slight mixture of the howl, and there was occasionally a husky choaking noise in the throat. I immediately declared that he was rabid, and requested that he might be left with me, to which his master, who could not be persuaded that he was dangerous, reluctantly assented, but made me promise to give a strong emetic, in order to get rid of the penny-piece which it was supposed that the dog had swallowed. It soon operated, and a small quantity of froth was voided.

23d. 8 A.M.—The breathing much less quick and laborous—the spasm of the head no longer visible—the flow of saliva nearly stopped, and less delirium. The jaw beginning to be dependent, and the tongue and lips assuming a dark colour—the rattling choaking noise in the throat louder. Frequently carrying straw in his mouth. He picked up some old pieces of leather that lay within his reach, and carefully concealed them under his bed—he would then take them out and look at them, and again hide them. He frequently voided his urine in small quantities, but no longer lapped it. He could not be induced to bite a small dog that was repeatedly thrown upon him. Give him ten grains of calomel.

10 P.M.—I had not been at home since the morning. Every symptoms of fever has returned with increased violence. He pants very much, and does not remain in the same posture two seconds. He is continually running to the end of his chain and attempting to bite. He would now have bitten the little dog, but his lower jaw had become paralyzed, and he could not penetrate the skin. He was eagerly and wildly watching some imaginary object—his voice was hoarser, and more of the howl mixing with it. The spasm of the throat was again evident, but the

head was tossed up instead of being drawn down—the lips a little distorted—the tongue and the lips very black. He is evidently getting weaker. After two or three attempts to escape he sits down for a second, and then gets up and plunges to the end of his chain. He drinks frequently, yet but little at a time, and that without difficulty or spasm. The medicine has operated twice. The fæces dark brown, and very foetid.

12 P.M.—The thirst strangely increased. A pan containing a full quart has been three times emptied and replenished. When he drinks there is a peculiar eagerness in his manner. He plunges his nose to the very bottom of the pan, and then snaps at the bubbles which he raises. No spasm follows the drinking. He took two or three pieces of meat from my hand, and immediately dropped them from want of power to hold them, yet he was able for a moment suddenly to close his jaws. When not drinking, he was barking with a hoarse sound. Every now and then starting suddenly, and watching and catching at some imaginary object.

24th, 1 A.M.—More furious, yet weaker. Thirst insatiable—otherwise diligently employed in shaking and tearing every thing within his reach. He died about three o'clock.

No penny-piece was to be found, but every character of rabies.

Are the symptoms of rabies in the dog the same in every country? I have sometimes thought that they could not be, and especially when I read in Richerand, Trollet, Jourdan, Hurtrel d'Arboval, and even Professor Vatel, in his last and admirable work, in fact, in every French writer of any note, except the accurate Rigot, that the dread of water is a characteristic of rabies in the dog; and that, although there is at times insatiable thirst, there is a shuddering at the attempt to swallow, and a shuddering likewise at the sight of polished bodies.—I was once going through a veterinary hospital in France, and among other things I was shewn a dog supposed to be rabid. I looked very attentively at him—there were none of the symptoms by which I had been accustomed to be guided: the more I looked at him the more I liked the appearance of the poor fellow, and, at length, to the great annoyance and fright of others, I very coolly opened the door of the cage in which he was confined, and dragged him out. If the dog had understood all that passed, he could not have thanked me more kindly than he did for this interference on his behalf. What became of him afterwards I know not; but I then thought, and think now, that it was one of those deceptive cases of distemper that have occasionally puzzled, *for a little while*, far better men than myself.

Notwithstanding, however, the fearful list of authorities that I

have quoted, I hesitate not to assert, that this excessive thirst—the standing over the water-pan for three, four, and five minutes—the return to it six or eight times in an hour—the spending of a very considerable time in the attempt to obtain a little water, is as unerring a proof of rabies as any thing that I have mentioned. I should want nothing more to determine my opinion than these frequent visits to the water-pan—the length of time spent at each visit—the small quantity of water that, after all, vanished, and thick frothy scum that was left on its surface.

*Occasional Dread of Water.*—Do I, then, mean to deny the dread of water in the dog? No; I have seen it. I have had this proof of the identity of the disease in the human being and the brute. I will relate an instance or two—they may be useful.

*Cases. March 9th, 1814.*—I saw a setter, belonging to Count Munster. He had been apparently quite well the night before. He was now breathing quickly and hardly. The chest and belly hot—the ears and paws cold. He had been costive two days. Some appearance of wildness and anxiety in the countenance, but he is perfectly gentle, and, indeed, eager to be noticed and caressed. It seemed to be an attack of fever, without recognizable local determination. Give aperient ball and injection; and a fever-ball in the evening.

*10th.*—The medicine has operated, and the dog was thought to be better. The breathing was not so laborious, but I heard with fear an inward harsh, grating sound that I had not observed yesterday. The mouth, too, was not perfectly closed—slight spasms could be perceived on the cheek and the upper part of the neck and he refused all food. I immediately suspected that he was becoming rabid, although he was as gentle as a lamb, and went from his master to me, and from me to his master, laying his head on our knees, and soliciting our notice, and probably imploring us to relieve him from a fearful apprehension and feeling that weighed heavily on his mind. Suspend all medicine.

*11th.*—The case is too plain. The lower jaw is dependent, and the tongue protrudes two or three inches, and is of a leaden colour, darkening towards the tip. He is eager to drink, and plunges his whole face into the water, and tries to lap for a second or two; then a spasm, horrible beyond description, seizes him: it lasts for half a minute, and he is himself again. Five minutes afterwards he approaches the water again, and plunges his muzzle into it, and again suddenly snatches himself away with an expression of alarm that I shall not easily forget. He died in the course of the night.

In May 1820 I attended a bitch at 13, Belgrave Place, Pimlico. She had snapped at the owner, had bitten the man-servant and several dogs, was eagerly watching imaginary objects, and had the peculiar rabid howl. I offered her water: she started back with horror, and fell into violent convulsions, which lasted about a minute. This was repeated a little while afterwards, and with the same result. She was destroyed.

Another case. I make no apology for introducing them, for the recollection of them will be useful. A Newfoundland dog, belonging to Mr. Anderson, of Ealing, was restless—scraping and disposing of his bed—watching imaginary objects—staggering as he walked, and that staggering referrible chiefly to the hind legs—a slight discharge of saliva from the corners of the mouth, and a harsh grating sound attending the breathing. He was brought to my hospital. As he was led up the passage with iron grating on each side, he growled at the two or three first dogs he saw, and dashed against the railing in a vain attempt to get at others; but he was perfectly obedient to me, and I did as I pleased with him. I placed a pan of water before him—he looked at it—advanced towards it, again looked earnestly at it, and moved slowly away; he returned, gazed at it for a full minute, approached nearer and almost touched it, and once more turned away.

I was at that time experimenting on the power of the scutellaria in cases of rabies, and being a manageable fellow, he was a good subject for me. The usual dose was about two oz. of the decoction. I got it into his mouth, and he attempted to swallow it, when one universal convulsion seized him, his eyes were distorted, his limbs were stretched, it resembled the last struggle of expiring life. Being forcibly held, he was compelled to swallow the medicine; but it was with one gulp, loud and violent; and when liberated he fell on one side completely exhausted, and panting dreadfully. He a little recovered himself in two or three minutes, and then he crept to the farther end of his division, and gazed anxiously upon me, watching every motion, gently wagging his tail, and offering his paw, as plainly as it could be expressed entreating me not to serve him so again.

A few hours afterwards I determined to give him a second dose. He offered not to bite, but his resistance was most determined. The butter-boat was soon broken to pieces, and a large iron spoon substituted. The medicine was got into his mouth—the attempt to swallow was accompanied by a universal spasm yet more horrible, and I thought that he had breathed his last. He recovered, and again crept to his corner, and fixed his

anxious, supplicating gaze upon me: I was not quite a brute, and I disturbed him no more.

He frequently approached the water, gazed wistfully upon it, and retreated and returned to it again.

He now grew rapidly weak, and before the eve of the next day was unable to get up; still he knew me, and faintly wagged his tail, and after many an effort gave me his paw. As he lay, he frequently looked at the water, and I put it close to him; but although he gazed at it, he made no attempt to drink. Before I left him at night, I put a pan of clean water within his reach. More than a pint of it was gone in the morning, but the poor fellow was dead.

A little before that, at the desire and with the kind assistance of Mr. Cæsar Hawkins, the power of the guaco was tested. The patient was a large pug. We gave him the medicine without the slightest difficulty—it was given three or four times; but nothing like spasmodic action occurred.

I repeat it, that the horrible spasms of the human being at the sight of or the attempt to swallow fluids, occur sufficiently often to prove the identity of the disease in the biped and the quadruped; but I can say with perfect truth, that not in one case in five hundred is there in the dog the slightest repugnance to liquids, or difficulty in swallowing them.

*The Alteration of Voice.*—In a great many cases, in almost all in which he utters any sound during the disease, there is a manifest change of voice. In the dog labouring under ferocious madness it is perfectly characteristic: there is no earthly sound which it resembles, and when you have fair opportunity I would urge you anxiously to study it.

The dog is generally standing, sometimes sitting, when the singular cry is uttered. The muzzle is always elevated: the beginning is that of a perfect bark, ending abruptly in a howl, a fifth, sixth, or eighth higher. You often hear dogs howling; but in this case there is the perfect bark and the perfect howl—the howl rapidly succeeding to the bark. It is one bark and one howl, and both of them uttered in the same act of expiration. Whatever character the disease may assume—whether the dog is harmless or ferocious, except the muscles of the mouth and larynx are paralysed, except dumb madness supervenes, the characteristic howl will be heard, and, in its way, will be an infallible guide.

Every sound uttered by the rabid dog is more or less changed. The huntsman, who knows the voice of every hound in his pack, occasionally hears a strange challenge. He immediately finds out that dog, and he puts him under confinement as quickly as

possible. Two or three days may pass over, and there is not another suspicious circumstance about the animal: still he keeps him under quarantine, for long experience has taught him to listen to that warning, and at length the disease is manifest in its most fearful form.

There is another partial change of voice to which the ear of the practitioner will by degrees become habituated, and which will indicate a state of the animal quite as dangerous as the direct howl; I mean when there is a hoarse inward bark, with a slight but characteristic elevation of the tone; or, in a few cases, when after two or three distinct barks, comes the peculiar bark and howl mingled. The first of these will gradually degenerate into the hoarse grating, choaking breathing of dumb madness: the other will gradually shorten into the rabid howl. In a few instances, in the dumb madness, the choaking, grating breathing is never heard, or continues but a little while; the characteristic howl, of course, is not heard, but the bark gradually deepens until it becomes strangely hoarse and gruff. I cannot describe all the changes of voice which the inflammation, or thickening, or œdema of the lining membrane of the fauces or the larynx may produce: various are the lesions of these parts which post-mortem examination of the rabid dog will display; but I return to the principal point, that there is one change of voice produced by this laryngeal affection, the rabid howl, which cannot possibly be mistaken.

*Change in the Eyes.*—The time is not yet arrived for an inquiry into the causes of the various symptoms of this disease, but there is a singular circumstance that must not be forgotten. I have spoken of the peculiar brightness of the eye of the rabid dog. It soon passes away. You saw none of it in the dog that was produced on this table in the first lecture—he was rather cowed and frightened. It was evident enough on the following day; and, ere the close of the third day it had entirely disappeared. The eye does not merely return to its former hue and expression, but it becomes dull, and wasted—a cloudiness steals over the conjunctiva—then a yellow tinge, deepening and assuming a dull green colour—a green-glass-bottle colour, as some one has well described it: in fact, a process of ulceration is set up deep within the eye. Its primary seat has never been satisfactorily determined; but it is fearfully rapid in its progress, and in forty-eight hours from the first cloudiness of the eye it has become one disorganized mass. It has burst at the cornea, and it is rapidly wasting away.

*Cases.*—I had a patient thus briefly described; for I saw him but once, “partial paralysis of the lower jaw—tongue hang-

ing out, and leaden coloured—constant restlessness, but perfectly harmless—choaking convulsive respiration, nearly blind, and one eye quite gone.”

Of another it is said, “tongue a little protruded, but highly discoloured; staggering about with a kind of spasmodic motion—lapping its urine as soon as voided—the eyes beginning to be ulcerated, and the dog nearly blind.” Of another dog, belonging to Gen. Anstruther, and which I saw on the 27th May 1822, and that had been perfectly harmless through the whole disease, I say on the 29th, “the dog is this morning evidently blind, and his eyes are in a state of suppuration.”

I know not of any thing precisely answering to this in the records of human medicine; but Dr. Vaughan speaks of the singular yellow appearance of the eyes of one of his patients.

*Loss of Feeling generally.*—There is also in the mad dog evident impairment of general sensibility, and, at the moments of greatest desire to be mischievous, a seemingly total loss of feeling. I have repeatedly had dogs brought to me in which the greater part and even the whole of the incisor and canine teeth have been torn out, in vain attempts to obtain their liberty.

I had not been long engaged in experiments on the power of different drugs, either as preventives or cures of rabies, without finding that it was necessary for me to get my subjects *bitten* by rabid dogs. I might inoculate a dozen dogs with the virus taken from the living dog in the worst state of rabies. Many minutes, many seconds occasionally, could not elapse in the transfer of the virus; but the disease often did not appear in one-third of those whom I had inoculated. I shall refer to this hereafter. In order to obtain a few cases in which I might trace and experiment on the disease from its earliest period, I was compelled to get the poor animals bitten. In two or three instances I was compelled to half kill, and in one case absolutely to destroy, the rabid dog before he would quit his hold. You may suppose that I did not like this mode of proceeding, and soon confined myself to the cases that came before me in the ordinary course of practice.

I have spoken of the pain in the bitten part as an early symptom of rabies; but in scratching or gnawing the part, the animal occasionally abandons himself to such an ungovernable state of rage, as to become utterly insensible to external impressions. In one case a dog set to work, and gnawed and tore the flesh completely away from the bones of his leg and foot. In another, the penis either having been in some strange way inoculated, or giving some offence, he fairly demolished it to the very base, crushing the os penis into several pieces.

Ellis, in his "Shepherd's sure Guide," asserts that a mad dog will never cry if you beat him. This I believe to be strictly true. I have now and then cowed him, and he has slunk away from me; but I never could extract a cry from him. I certainly have never tried this to the extent of which Ellis speaks, and I a little doubt the truth of his story. He says that "at the kennel at Gaddesden," now the Duke of Bridgewater's, "they heated a poker red-hot, and, holding it near the mad hound's mouth, he greedily seized it, and held it until it made his flesh flare, yet he never let go his hold, nor cried."

*The partial Paralysis.*—In the great majority of cases of furious madness, and in almost every case of dumb madness, there is evident affection of the lumbar portion of the spinal cord. There is a staggering gait, not indicative of general weakness, but referrible to the hind quarters alone, and indicating an affection of the lumbar motor nerves. Now and then it approaches more to a general paralytic affection.

I have a case in point, dated March 1820:—Mr. Dottin's dog had been bitten in the ear. On the two preceding days, he had been scratching it continually, and rubbing it furiously on the ground. The situation of the bite accounts for a portion of what follows.

*30th.*—He holds the head considerably on one side, and the bitten side is downwards; the axis of the eye on that side is also distorted, and not only the eyelids, but the eye itself, is occasionally spasmed. The dog snatches at his food instead of taking it in the usual manner, and sometimes misses his aim. The power of voluntary motion generally seems to be diminished—the dog is wandering and staggering about, and slight spasms are prevailing over the whole of the frame. It is always a very suspicious circumstance when a dog is seen staggering along the street; and many a time it has been the first thing that attracted my attention, and afterwards led probably to the prevention of some mischief by the timely discovery that the dog was rabid.

Occasionally the disease has assumed a more violent or even tetanic form. *June 25th, 1825:*—This dog had been bitten by a rabid dog on which I had attended on the 22d of the preceding month. For the last two or three days he has been more than usually cross, and has refused its food. Yesterday he began to stagger, and occasionally to whine and cry. To-day, when I saw him for the first time, the head was drawn towards the left side—he was bitten in the left shoulder—so as to give an appearance of considerable swelling on the right side of the neck—he is very irritable—the eyes are somewhat staring and

wild, but there is no watching or anxiety or eagerness about imaginary or surrounding objects—he is restless, and appears to be in great pain, but unless he is spoken to, he takes no notice of any person or thing. I should probably have considered it as some nervous affection, perhaps incipient tetanus, had not I known that he had been bitten by a rabid dog. He had licked the hands both of the lady to whom he belonged and her daughter, and there were sores on both. I, therefore, wished to provide against the worst, and entreated them to submit to the application of the caustic, to which they immediately consented.

26th.—The disease has more the character of tetanus. His favourite posture, when he can obtain it, is to stand with his hind legs apart, with his head drawn on the left side, touching the ground, and thus supporting part of his weight. He cannot, however, retain this position more than a few minutes, and then he totters and falls on the left side. He now begins to cry sadly, and incessantly works himself about; until he has either been placed, or, by the help of something against which to lean, has placed himself, in the old position. There is no disposition to bite, except when he is meddled with. The countenance expresses intense anxiety, mingled with increasing ferocity. He refuses to eat, but drinks a little. I endeavoured to conceal a strong dose of calomel in his water, but he discovered it in a moment, and never drank afterwards.

27th.—He died to-day, after lying nearly motionless for the last twelve hours. The dissection proved unequivocally that it was a case of rabies.

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## RESEARCHES ON THE PRODUCTION OF HAIR ON THE MUCOUS COAT OF THE DIGESTIVE CANAL OF HERBIVOROUS ANIMALS, AND PARTICULARLY OF THE HORSE.

*By M. MAILLET, Royal Veterinary School, Alfort.*

THE numerous points of analogy which exist between the mucous and cutaneous portions of the integumental system have long been known to anatomists. The continuity of the mucous membrane and of the skin at the natural orifices forming, out of these two membranes, a continuous system, everywhere in contact with substances foreign to the frame—the follicular and alveolar depressions, found equally in both—the superposition of the several tissues of which both the one and the other are formed—these are points of resemblance that have not escaped

the attention of observers. In addition to this, embryotomy has shewn that the skin and the mucous membranes are the parts that are first formed; while chemistry has demonstrated the complete identity of the mucus and the epithelium with which the internal teguments are lined, and the epidermic productions, hairy or horny, of which the skin is composed.

To all these points of analogy, and to some others of less importance that may be observed in these membranes in a state of health, pathological anatomy has added resemblances in the changes, the degeneracies, and the transformations which they undergo; while physiology has demonstrated the strict relation there is between many of the functions common to them both, and how numerous are the sympathies which unite them in a state of health as well as of disease.

Notwithstanding, however, this apparent identity of the skin and the mucous membrane in many particulars, we cannot fail of recognizing evident differences of anatomical structure. It will be only necessary for me to mention one, to which I am desirous of directing the particular attention of the reader—the production of hair seems to be peculiar to the skin, and it ceases to be remarked as soon as the mucous membrane commences. It is true, that some facts, and which have been considered as anomalies, have shewn that these productions may accidentally exist on certain parts of internal teguments, both in man and some of the inferior animals.

In man several cases of this kind have been observed. Bichet, in his "*Anatomie Generale*" (tom. iv, p. 534) says that hairs are sometimes formed on the mucous membrane of various parts, and that he has seen it in the bladder, the stomach, and the intestines. Béclard and many other anatomists have said that they have found it on different parts of the mucous membrane in the human being. It has been particularly remarked on the conjunctiva of different animals. *La Recueil de Méd. Vét.* (1824, p. 84 and 229) contains many facts of this kind, published by different veterinarians, and from which it appears that hair has been observed on the conjunctiva and cornea lucida of different animals, such as the horse, the ass, and the dog\*.

However, I had not known of any case in which these productions had been met with on the membrane of the digestive passages of quadrupeds, although the existence of hard sub-

\* A tuft of hair, consisting of at least thirty fibres, and nearly two inches in length, was congenital on the centre of the cornea of an Abyssinian lamb in the menagerie of the Zoological Society of London. It was a great nuisance to the little animal, which never thrived, and died at about three months old. I would have plucked the hair away, but that it was a kind of natural curiosity.—Y.

stances of an epidermic character had been long recognized, and particularly in the folds of the stomachs of the larger ruminants.

It may also be remarked, that authors, whether medical or veterinary, who had, unto the present time, spoken of the existence of hairs on some parts of the mucous surface, have considered these productions as accidental, and either as the result of congenital derangement, or of some morbid alterations during their extra-uterine existence.

Another question now arises, may these capillary growths form part of the natural conformation of certain organs? It has been left for me to answer this question in the affirmative.

On Feb. 4th, 1836, I opened a heavy draught horse, ten or twelve years old, of a light roan colour. It died of intestinal hemorrhage. As I examined the lesions produced by this disease on the mucous coat of the large intestines, I perceived a great many small hairs implanted in it towards the pelvic curvature of the colon. They were white, and in size and length resembled those of the external coat of the animal. They were very easy to be perceived, because their light colour formed a contrast with that of the mucous coat of the intestine, which was of a red brown colour, produced by the sanguineous engorgement of the part. I plucked out some of them, and by the assistance of a lens I ascertained that, like those of the skin, they had a bulbiform enlargement at the root. As I knew that others had found these hairy growths on the internal teguments, I thought, as they had done, that they were merely accidental, and the circumstance would not have made any considerable impression on my mind had it not been for the following circumstance.

Two days afterwards, another horse died of the same disease. I examined the portion of the mucous coat of the intestine that had been the principal seat of the disease, and there also I found hairs similar to the preceding. I shewed portions of the intestine on which I had observed these hairs to several of the professors of the school of Alfort, and they agreed with me that these hairs possessed all the characters of those of the skin.

This discovery induced me to search whether these hairs frequently occurred in the intestines of horses, and whether they were to be found in any other case than that of the intestinal mucous membrane being gorged with blood, and strongly coloured by that fluid.

The result of this inquiry was, that hairs were to be found on the intestinal mucous membrane of almost every horse, at the pyloric orifice of the stomach, and origin of the small intestine,

and also in the colon, and particularly towards the pelvic and gastric curvatures.

I have found them in many horses, but less frequently than at the places which I have mentioned, in the whole extent of the folds of the colon—in the cæcum, principally towards its base; and especially at its insertion into the small intestine, and in the small intestine just beyond the insertion of the biliary and pancreatic ducts. I have never found them in the ileum, nor in the rectum; and I have only once found them in the floating portion of the colon. I have almost uniformly found some hairs in the right extremity of the stomach, near the pylorus, but never in the cardiac portion.

When horses have died in consequence of intestinal hæmorrhage, or any other disease that has produced considerable redness of the mucous coat of the intestine, the hairs are more easily to be seen, on account of their colour, which is generally lighter than that of the mucous coat; and also because, with the blood, much of the natural mucus has been carried away, and the hairs have been left exposed; and, lastly, because the accumulation of bloody serosity in the sub-mucous cellular tissue has caused the bulb of the hair to project, and has rendered its free extremity more evident to the sight and the touch.

In other circumstances it is somewhat difficult to perceive the hairs with the unassisted eye, so that it is necessary to recollect the regions in which they are most commonly found, and to wash the membrane, and to remove the mucus with which it is lined, in order to leave the hairs as bare as possible. By means of a microscope or a lens they are very easily discovered.

The hairs are not of precisely the same character in every horse. In the horse of heavy draught, the Belgian, Boulonnaise, Picardy, having a thick skin, well covered with coarse and long and numerous hairs, the hairs on the intestines are also long and coarse, and easily perceived.

The age of the animal seems to make very little difference, only I think I have remarked, that adult and old subjects have more hairs on the intestines than those that are young. On very young horses they are scarcely or not at all to be perceived; but I cannot tell the age at which they begin to make their appearance\*.

I am inclined to believe that, once developed in the intestine,

\* The hairs that are found in the meconium, at the opening of the fœtus, are not they derived, in part at least, from the mucous coat of the intestines? M. Rigot found, at the same time, some detached hairs in the intestine of a fœtus, and some others *slightly adherent* to the mucous coat of the intestine.

they always remain there, at least I have seen them plainly enough in very old horses.

They are more numerous and more easily seen in entire horses than in geldings or mares: in coarsely-formed horses, however, and horses of heavy draught, there is very little difference in this respect.

Chronic alterations in the mucous coat of the intestines, the presence of worms, local engorgements, sometimes render the hairs more apparent. The length of the hairs is variable. In the small intestine, near the pylorus, I have found them six lines in length; but their ordinary length does not exceed a line and a half or two lines, and they are sometimes so small as to be almost imperceptible. On the same place, or within the space of a square inch, there is sometimes a very great difference, both in their length and their bulk. The longest are those which are found in the groups of mucous follicles. In general, they are longer at the pylorus than in the colon, and in that than in the cæcum.

They are differently coloured, according to the colour of the animal, and are generally as nearly as possible of the same hue as his coat. I have not had opportunity to remark whether, in piebald horses, there are patches of different colours in the intestinal canal. I purpose to continue my investigations in every point that can be interesting with reference to natural history. In the portion which is actually adherent to the mucous membrane, they are colourless; it is only at some little distance from the membrane that they assume their various hues.

Their size is as variable as their length. I have met with some near the pylorus which were as large as a hair from the mane, and they felt rough under the finger, while others, increased to 150 times their size, were not more than the 30th part of an inch in diameter: the latter were incomparably more numerous than the former.

I have already said that the hairs of the intestinal mucus had, like those on the skin, a bulbous enlargement at the base. I have sometimes seen this with the unassisted eye, but at other times I have been obliged to M. Lassaigne, who has beautifully developed them by means of the microscope.

The bulb being isolated has a somewhat ovoid form, and intimately adheres by means of its base to the chorion of the mucous coat. When it is separated by force, there remain some small broken filaments of slight consistence. These bulbs are sometimes agglomerated together, and the hairs which protrude from them, unequal in length and in thickness, diverge at the approach to the free surface of the mucous coat. These agglomerations

are mostly found where there are collections of mucous follicles. It is rare that several crypts or follicles are not found where the hairs are longer than usual; and almost always, round the central longest hair, there are many other smaller ones taking a parallel direction. I have never found an intestinal hair, even among the largest of them, whose bulb was situated either in the submucous cellular tissue, or on the muscular tissue.

It is difficult always to see the exact direction of the free portion of the hair. It is probable that the mucus would keep them straight, or perpendicular to the surface in which they are planted; but they yield occasionally to the pressure of the aliment, and they bend in the direction which the aliment and the mucus take within the intestine.

As to their chemical properties, it is impossible to ascertain them, because a sufficient number could not be obtained. M. Lassaigne says, that nitric acid turns them yellow—that they are soluble in weak potash, and that while burning they diffuse a strong empyreumatic odour, like those of the skin.

In those parts of the intestinal mucus in which they are found, they are not planted in a uniform manner. Sometimes thousands of them are collected together round the pylorus, whether in the stomach or intestine; at other times they are distant half a line, or a line from each other. At the curvatures of the colon they are more numerous in some horses than in others. In the cæcum they are most thinly, and yet regularly, scattered. Sometimes there are not more than one or two in the space of a square inch. In addition to this, their distribution varies considerably in different animals.

Such is the result of my researches as to the existence of hair in the gastro-intestinal mucous membrane of the horse.

Do they exist in other animals? I have searched in vain for them on the mucous membrane of the intestines of the sheep; but I once found them in the fourth stomach of the goat. I have been more fortunate in my researches in the ox. I have three or four times found them in the abomasum of the ox, and twice as numerous as in the stomach of the horse. They were most numerous on the summits of the rugæ, and especially towards the pyloric orifice, than around the esophagean entrance. The colour was the same as that of the coat of the animal, and some of them appeared used and roughened at their free extremity. I have not found any in the intestines of these animals, nor, indeed, on any other part of the mucous membrane than the abomasum.

After considerable research, I am inclined to believe that they are not perceivable on the intestinal mucous membrane of the

carnivora. I have never seen them in the dog, although I have carefully examined the stomach of that animal, in cases of poison, and of hemorrhage, both from the stomach and the intestines.

Of the omnivora, I can only say that I have examined the digestive passages of some young pigs, and have not found any worms.

I do not know whether these hairs are natural to the digestive passages of the human being. I am inclined to think that they are. They have occasionally been seen, but they have hitherto been regarded as anomalies. The skin of the human being is but slightly furnished with hair, and therefore it would probably exist in a proportionably small quantity in the digestive canal, and would be generally overlooked, or, perhaps, except under peculiar circumstances, be rarely visible.

I have in vain searched for hairs in the horse, the ox, the sheep, and the dog on the mucous membrane of the œsophagus, the pharynx, the larynx, the nasal passages, the trachea, the conjunctiva, and the genital passages: in neither of them have I found the least trace of such a production, and therefore I do not think that in a normal state it exists—still I have referred to facts which prove that they have accidentally been found on the conjunctiva of some animals, and, in a healthy state of the parts, they are always found on the caruncle of the larger kinds of animals.

But how is it that, though almost always found in the horse, it is only on certain parts of the alimentary canal? This is an interesting inquiry, and, in order to give a satisfactory answer to it, it will be necessary to examine what is the state of the mucous surface on which they are found, and that on which they are wanting.

In the right sac of the stomach, the small intestine, the cæcum, and the curvatures of the colon, the mucous coat, more or less thick and organized, is covered only by a humour of little consistence, and that may be elevated and removed without much difficulty. On the contrary, in other parts of the digestive tube, the same membrane is either covered by a thick epithelium, like the left sac of the stomach and the œsophagus, or with a thick and tough mucus, like the rectum and the floating portion of the colon. Then the presence of this thick and hard epithelium, explains, to a certain degree, the absence of the hair, and so likewise do the thick and tough mucosities in a portion of the colon and of the rectum.

What is the use of these hairs? All that can be said on this point must be purely theoretical. They are found only where

the mucous membrane is imperfectly defended from the contact of the alimentary matters, whether fibrous, or, more or less irritating, or remaining a considerable time on that part: is it, then, irrational to suppose that these hairs were intended to defend the subjacent membrane from irritation and injury? We do not find them where there is either epidermis or tenacious mucus. Perhaps also these hairs prevent the mucus from being rubbed off, and the parts beneath left denuded and subject to injury by the passage of the alimentary matter—possibly also by the interposition of the hairs, the mucous coat is somewhat protected from the chemical action of some of the substances that are passing over it.

We have no means of ascertaining whether the hairs of the intestine are caduceous, like those of the skin, and whether there is a periodical moulting process. Reasoning from analogy, we should be inclined to think that this would be the case, and there are some pathological facts that render it probable. In many cysts, deep among the muscles, and at a considerable distance from the skin, we find hairs that have been detached from their internal surface, swimming in the sebaceous humour which these cysts contain, and which have been evidently replaced by shorter ones implanted in the walls of the cyst. Professor Delafond has told me that he has found in these cysts hairs which appeared to him to be the produce of several successive moultings. I have not, however, any facts to warrant me in giving a decided opinion with regard to this intestinal moulting. If the hairs are periodically detached, they would be carried away and expelled with the fecal matter; and I could not, in my examination of that matter, separate the true intestinal hair from that which had been obtained by the animal licking himself or his companions.

*Recueil de Méd. Vét. Juin 1837.*

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Although not perfectly agreeing with all the opinions of M. Maillet, we consider this a very interesting and important paper, and recommend it to the attention of the veterinary and comparative anatomist.—Y.

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## A CASE OF INFLAMMATION OF THE UTERUS.

*By Mr. W. STAVELEY, Royal Veterinary College.*

I LATELY was present at a debate on Puerperal Fever in Cattle in the Veterinary Medical Association, of which I have the honour of being a member. It was considered by the

majority of the speakers that these terms were inappropriate, as not properly characterizing the true nature of the disease. It is not, however, true that inflammation of the womb does never follow cases of parturition; on the contrary, I should say, that it is always a concomitant to a greater or less degree; but, fortunately for the animal, it generally passes over without any fatal effects resulting from it; yet this is not always the case, as the following history will prove:—

I was called upon to see a three-year old heifer, belonging to Mr. J. Gornall, on the 24th of March 1836, at noon: the heifer had calved on the 21st, at night.

Great violence had been used in the delivery, which was completed in a little more than an hour. She was in very high condition at the time, and had a considerable quantity of ale given to her before and after the calf was extracted. A large quantity of oatmeal was also given by order of a farrier who had the management of the case until my arrival, and who had on the same day introduced his hand and arm, and emptied the contents of a small bottle into the uterus. On being asked by the owner what the bottle contained, he replied, double distilled oil; and he desired the owner to introduce his hand in the same manner six hours afterwards, and convey into the womb a quantity of hog's-lard, in order to keep the passage open, as he termed it, the discharge being pent up.

The cow was lying down, and straining violently. The horns and ears were hot; the mouth hot and dry; the conjunctival membrane very vascular; the labia pudendi much swollen; great difficulty in voiding urine; the pulse between 130 and 140, and the bowels not very costive. The straining had been much aggravated by the owner introducing his hand into the womb a very short time before I saw her, and she had begun to strain twelve hours before.

I had recourse to venesection to the amount of 16℥, and administered ℥xij mag. sulph., ordering fomentations of hot water to the loins and vulva. I also injected, per anum, an infusion of ziss of opium.

In four hours afterwards, the pulse was as frequent and as hard as before, and no symptom much abated. I bled again to the extent of 6℥, and gave mag. sulph. ℥viiij. The straining being nearly as violent as before, I dissolved a drachm of opium in a quart of boiling water, and, when nearly cold, injected it into the womb. The cow was now very often lying down and getting up, continually shifting her position, and expressing the most excruciating pain. The secretion of milk had been entirely arrested nearly from the commencement: all kinds of food were refused.

After four hours, the straining considerably abated; but the pulse still frequent and strong. I again bled to 6*℥*, and ordered the fomentation to be continued.

25*th*, 9 o'clock A.M.—Straining abated: she had given about a quart of milk just before I arrived. The bowels had been acted upon, and every symptom was more favourable. The pulse was not so frequent, but still about 120: the extremities were of a natural heat.

9 o'clock P.M.—Straining occasionally, but not so frequent as before: she had taken a little oatmeal gruel: pulse as before. She had yielded a small quantity more milk. I ordered the fomentations to be persisted in to the loins and external parts of the labia pudendi.

26*th*.—Every symptom more favourable, with little straining. Pulse 115; mouth hot and dry. She had stood considerably longer than before; had eaten a small quantity of hay, and taken some oatmeal gruel; but still evinced very great difficulty in voiding her urine: the catheter was introduced, and a large quantity of urine was evacuated.

27*th*.—Pulse continues frequent, but the surface of the body is of a natural temperature. She had eaten a little boiled corn in combination with linseed: her milk amounted to three quarts a-day. There being yet a considerable difficulty in making water, fomentations were used two or three times a-day. The labia pudendi were very much swollen. Give six ounces of sulphate of magnesia.

28*th*.—Pulse about 100. The straining nearly subsided. She had taken a fair quantity of hay, boiled oats, and linseed, and occasionally some oatmeal gruel. The milk was still increasing in quantity; the catheter was again introduced, and a large quantity of urine evacuated. On everting the labia pudendi, sloughing could be perceived covering a very considerable surface, and a quantity of white and very offensive-smelling fluid was continually escaping from the uterus and vagina.

29*th*.—The pulse is now about 90; all inflammatory symptoms have gradually subsided; the urine is evacuated without difficulty. A large quantity of decomposed substance has now detached itself, and which appears to have been the internal lining of the uterus and vagina. When folded together, it is about the size of a small hand; smaller quantities having come away previously at several times. A discharge of the white opaque fluid still continues, of a very offensive smell. The quantity of milk is still increasing. She eats boiled oats, and oatmeal gruel, hay, &c. in moderate quantities. Let a dose of tonic medicine be given on three successive mornings.

*April 1st.*—Eating well; giving four quarts of milk twice a-day; pulse 75 and rather weak; tongue, nose, &c. moist; straining a little at intervals, yet but very little. The food to consist of boiled oats and hay, also oatmeal gruel in considerable quantities in lieu of water.

After this she gradually got well, milked largely, and became better or higher in condition than any other of the owner's milch cows. She was several times with the bull at the period of œstrum, but never afterwards produced a calf.

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That we had here inflammation of the womb, and that with a vengeance, is plain enough; but who will venture to say how much was attributable to the natural progress of the disease, and how much to the medicines and injections of the farrier?—Y.

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## ON THE APPARENT DEBILITY ATTENDING PUERPERAL FEVER.

*By Mr. ANDREW YOUNG, Jedburgh.*

Sir,—I AVAIL myself of your kind and, I hope, properly appreciated invitation to the members of the profession at large, to come forward and contribute their mite to the advancement of veterinary science.

I have been induced to write at this time by reason of a discussion which took place at the last reported meeting of the Association (a society in whose proceedings I feel deeply interested), when views were advocated respecting the nature and treatment of puerperal fever with which I am constrained to differ. My present intention is to treat the subject generally; perhaps at some future period I may enter into it at greater length.

That plethora is a strong predisposing cause of puerperal fever was sufficiently attested by the experience of every veterinary surgeon who vouchsafed to state his opinion. That puerperal fever does also attack cows when there is no particular fulness of habit, I am perfectly aware; but in such instances I have observed it to be comparatively mild, and never fatal in this neighbourhood.

It would be difficult to determine what influence this high-conditioned state is capable of exerting over the complicated excitation, the sexual organs, and of the system which follows parturition; and how far it is concerned in that formidable array of

symptoms which we occasionally observe subsequent to the expulsion of the contents of the uterus.

In a cow whose blood is greatly enriched by nutritive food and inactivity, the whole system is in a state of general excitation; and in the ratio of the plethoric diathesis is the liability to inflammatory action and local congestion. Considering the sudden and important change which takes place in the condition of the uterus, we cannot be surprised that this organ should frequently be the subject of inflammation; and this perverted action, when once excited, may, by the various morbid sympathies which it gives rise to, produce the whole train of symptoms we observe in the disease misnamed puerperal fever. I was often at the outset of my career at a loss to know how to proceed in combatting this disease: the smallness and apparent debility of the pulse, together with the drooping of the head and the inability to move the extremities, rendered the diagnosis very difficult, and was calculated to mislead an inexperienced practitioner: however, from a conviction that uterine inflammation was at the bottom of all the mischief, I fearlessly enforced the antiphlogistic regimen, and have never had reason to repent of it: indeed, with a few exceptions, out of a great many cases, they all terminated happily; and I invariably found, in the successful cases, that the strength of the pulse increased under such discipline.

With all due deference to your opinion, I submit that the legitimate deduction is (so far as my observation goes) that the apparently irremediable prostration of the powers of life, and supposed paralysis of the hind limbs, is neither more nor less than that which is appropriately and expressively designated false adynamia. This kind of debility is always dependent upon deranged circulation; a fact I have no doubt, Mr. Editor, you have repeatedly observed in your own practice. This feebleness is relievable by well-regulated depletion and purgation, and by the judicious employment of these natural vigour is soon restored, and health is revived without local lesion of any kind ensuing. If stimulants through misconception are substituted for evacuants in the *early* stage of this disease, the chances are much against the animal's recovery.

By way of illustrating my treatment, I shall relate a case which lately occurred in a mare, being the only one of the kind that ever came under my observation in that animal.

On the 25th of June last I was called to see a mare, the property of William Scott Kerr, Esq., of Chatto. I was informed by Mr. Kerr's groom that the mare had foaled about thirty hours before, and appeared quite well. I learned also that the parturition had been very difficult, and that there was an abundant

secretion of milk before and after foaling, which, at the time I saw her, was completely suspended. The present symptoms came on very rapidly: she was down and unable to rise; rather restless, with anxious countenance, and dull heavy eye; legs and ears cold; pulse 80, and small and oppressed. The animal had been grazing upon a rich pasturage, and was in good condition. After abstracting six quarts of blood, her bowels being loose, I administered a gentle laxative, consisting of aloes Barb. ʒij, pulv. zingib. ʒiss.

I saw her again about eight hours afterwards. The symptoms were much the same. Three quarts more blood were taken away, and half a bottle of castor oil given. The animal was made as comfortable as possible as to bedding and clothing.

I saw her again in about twelve hours. The symptoms were much ameliorated, the pulse 60, and improved in character, and the medicine operating. A ball containing antimon. tartariz. ʒj, nit. potassæ ʒij, was given and repeated in twenty-four hours.

In thirty-four hours from the time of my seeing her first she was on her legs; a mash of boiled barley and bran was then laid before her, of which she ate a little. She had oatmeal gruel to drink every two hours, and her legs were bandaged. In the course of three days the milk began to be secreted, and the animal improved daily. The following ball was given every day for twelve days: sulph. ferri ʒiss; pulv. zingib. ʒij; pulv. cinchonæ ʒiv; sapon. Castile ʒijj. Under the above treatment she recovered, and is now in good health.

## ON WOOD-EVIL AND MOOR-ILL, IN REPLY TO MR. MAYER.

*By Mr. Cox, of Leek.*

As Mr. Mayer, in his last paper on wood-evil, &c. has directed the attention of the readers of *THE VETERINARIAN* to a query or two, I intend to make a few remarks on them by way of introduction to a case or two, which I subjoin.

Query 1st.—I think it is possible for an ordinary observer to infer, from my first paper on wood-evil and moor-ill, that I stated the opinion of farmers as to the cause of moor-ill, and also the result of my own practical experience.

Q. 2d.—I have here to say again, that I saw fifty-two cases last year with the symptoms that are described in my first paper on moor-ill, and which Mr. Mayer says are the symptoms of rheumatism which are found on cold wet land, &c. I think it is almost impossible for it to occur in the practice of any one to

have fifty-two cases of rheumatism, and a great many of them scarcely able to rise when down, and not have the swelled joint, &c., as described by our modern writers. It is not impossible to have a rheumatic affection without the swollen joints; but there is not that particular grunt which characterizes what I call moor-ill; and, moreover, I find it to be quite the contrary here. What I call moor-ill is more prevalent on dry land, and in dry, hot summers than in cold wet ones.

Q. 3d.—If any one will look my first paper over again, he will find that I said I was not aware that any proper distinction had hitherto been drawn; therefore in what way could I expect to be supported on this subject, by either modern or ancient writers? But to retrace my steps. Our fathers had the good sense to see that moor-ill was brought on by feeding on some unwholesome food found on moors and commons, which was absorbed into the system, and so produced that affection of the joints and muscular system which they describe. Wood-evil, on the contrary, was brought on by eating acrid herbs, &c.

Q. 4th.—Moor-ill! Mr. Mayer hardly knows what I take it to be. As my first paper on Wood-evil and Moor-ill was very short, and its contents were not much more than a few hints for the veterinarian's consideration, and my second was not given so accurately as I could wish, a little from my own pen, and a little from that of the editor or printer, for this reason I consider I have said very little on the subject at present, and I may have rather kept in the rear as to the cause; and, moreover, if I mistake not, there are diseases incident to cattle which have been known to exist for ages, and the precise cause not known at the present day. Is not puerperal fever a matter of much dispute among us at the present day?

Q. 5th.—Post-mortem appearances I have given none. I did not know that I had sent any cases: and—allowing me a little to boast here—if I had such ample opportunities of post-mortem appearances as Mr. Mayer is led to suppose, my reputation for the cure of what I call moor-ill would not be what it is. I have followed veterinarians and others, and been successful where they have failed.

Q. 6th, or lastly.—I felt somewhat astonished, when I looked over Mr. Mayer's last paper on moor-ill, to find a question put to me which I had already stated as a matter of fact, in the case of Mr. Snow and another farmer, whose name I thought proper to conceal, because he is a relation.

I now proceed to relate some cases:—

About the 20th of July, Mr. Bentley, a farmer at Endon, called to give me some information about three cows, which

he had at a farm near Hartington, in Derbyshire, which had been affected some time by a disease frequent in that farm and others contiguous. On making further inquiry, I found that they were cases of what I call moor-ill. As I advised him to bring them to Endon, and the expense of a journey seemed an object, we parted for the time. Here I would remark, that various practitioners tried their skill on these cows some time.

On the 21st of October, Mr. Bentley wished my attendance at Endon, saying that, with much ado, they had brought the cows there.

#### CASE I.

Bowels regular; not any swelling to be seen. Pulse 45. The beast seems very stiff, scarcely able to rise when down; there is a peculiar grunt, together with a crackling of the joints; and she is a mere skeleton.

#### CASE II.

Pulse 41; no swelling whatever; bowels regular; stiff about her shoulders; more confined to the fore extremities and thorax, than in the former case. Some degree of grunting and crackling of the joints. Not so reduced in condition as the former cow.

#### CASE III.

Pulse 47; bowels regular; and not any swelling to be found. I am informed that in this case the stiffness and lameness have removed from the fore extremities to the hinder ones, at the same time the grunting ceased. The beast is in fair condition.

I understood that the cows had been a short time at Endon; and Mr. B. told me they had a very good appetite previously to and since the attack of this disease, and never were constipated; and that he had no three cows at Endon which would give more or better milk.

*Treatment.*—Insert a seton of *veratrum nigrum* in the dewlap of each, and in a few days give the following tonic diuretic:—*Pulv. semi anisi, pulv. semi carui, āā 3j; potassæ nitrāt., juniperi baccæ, et resinæ, āā 3iss; kali prep. 3ss; theriacæ 3iv*, in a quart of cold ale. These cows got well without any more medical treatment, with the assistance of nutritious food. In general, I use the above tonic diuretic once a week, and the following every other day:—*Gentiani rad. p. 3iss.* in a pint of strong decoction of the lesser centaury.

*Remarks.*—I have selected cases to begin with not in Northumberland, nor yet in the north of Scotland, but in the circle of Mr. Mayer himself. I shall be brief on the cause in this paper; but I will say, that, instead of being a rheumatic affection, brought

on upon cold wet land, &c., I believe it is produced by a derangement of the functions of one or more of the digestive organs; and I have always treated it as such. And, moreover, I am compelled to believe, that there is no such a disease with the symptoms and names as our modern writers call wood-evil, pantas, moor-ill, &c. I have been at many post-mortem examinations of what was called by other practitioners fatal cases of wood-evil or moor-ill. Some I found died from a constipation of the maniplus; others, inflammation of the lungs, inflammation of the liver, &c.

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[This paper has been mislaid, or it should have been earlier inserted. We feel ourselves bound to publish it, because Mr. Cox could claim a right of reply to the queries of Mr. Mayer; otherwise it is time for this controversy to cease, for it was becoming tainted with a little too much personal feeling. We do assure Mr. Cox, that we have never done more than alter a little his diction and spelling. We have not meddled with a single opinion, or knowingly weakened the force of a single sentence. In proof of it, Mr. Cox's present letter shall, if he wishes it, be published *literatim et punctuatim*.—Y.]

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## A CASE OF LAMENESS.

*By Mr. TAIT, of Portsoy.*

'Tis pleasant to see one's name in print:

A *case* is a *case*, tho' there is nothing in't.—BYRON.

THE subject of the following notice, when one year old, became lame in consequence of a ringbone in the near fore leg. He was fired and blistered, which had the desired effect; but, although he went sound, the enlarged joint was still perceptible. When four years old, he was taken up and broke for the saddle, and continued to do work for six months; after which he again went lame. The owner wishing to dispose of him, I became the purchaser (not at a high figure). I fired him pretty deeply, and applied a smart blister; and in the course of a week he was sent to grass for a month. He came up sound, and continued so for two months, when he again became lame. As the firing-iron had told tales, you might as well think of shooting a horse that had these marks, as get rid of him at any price in this part of the country; for the good folks here would as soon see "*auld Nick himself*," as see a horse that had been "*brunt*." As I had been at a good deal of trouble and expense with him, I tried neurotomy, as a *dernier resort*. The operation had a wonderful effect upon him, as he became quite sound, and continued so; but falling in by chance with Lord Kintore's fox-hounds, and after being with them for a couple of hours, I returned homeward. Being

so delighted with my nag, I tried him over a fold dike nearly three feet high, which he took ; but on landing on the opposite side, down he came, and reversed the order of the day. I crawled out from below him as well as I could ; but poor Highlander had only three legs to stand upon, the fourth one bending to the winds. It was requisite to destroy him ; and on examining the bony encasement which enveloped the lower pastern joint, it was smashed into a thousand fragments ; and the lower end of the pastern bone was also comminuted. The superior end of the nerve which had been divided was approaching to the inferior, by some inherent power of its own, as I counted upwards of twenty rings (similar to those in the hoof), as it were, following each other, in order to accomplish their object—namely, *re-union*.

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## REMOVAL OF A WORM FROM THE EYE OF AN ARAB HORSE.

*By Mr. W. JEAFFRESON, Surgeon-Oculist.*

[The volumes of THE VETERINARIAN contain several cases of the removal of a worm from the anterior chamber of the eye of the horse and the ox\*—it has been extracted from that of the human being—it has been seen in considerable numbers in the eye of the fish ; and, strange to say, parasite as it is, it is preyed upon by other parasites†. We, however, extract this case from *The Lancet* of the 5th of the last month, because it is recorded by a human surgeon, to whom we are at all times thankful for any assistance that he will lend us in effecting the improvement of our art—because he alludes to “that strange and almost unaccountable symptom,”—a matter in dispute among us—“a very great weakness in the loins,” accompanying the existence of this worm ; and because his mode of operation somewhat differs from that adopted by any of our East Indian veterinarians.—Y.]

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A HIGH bred Arab race-horse, in the possession of Captain Seton, Town-major of Bombay, when under training, was observed to become out of condition. The horse was dull and “off its feed,” and had, what I have invariably observed, the strange and almost unaccountable symptom, of very great weakness in the loins. The eye affected was slightly weak and watery, but

\* Veterinarian vol. i, p. 75, 77, 114, 194, and 310 ; also vii, 196, 201.

† Kirby's Bridgewater Treatise, vol. ii, p. 354.

free from any perceptible inflammation. The aqueous and other humours were in a perfectly natural state. A worm had been distinctly seen for several days moving about the whole circumference of the anterior chamber, exactly like an eel in a basin of water, apparently in the full enjoyment of its natural element. It was nearly, if not quite, an inch long, of the diameter of sewing silk, and of a beautiful silver whiteness.

Having previously secured the animal by casting him on a soft bed of straw, in a strong light, several persons held his head down securely. In the presence of many sporting gentlemen (one of whom secured the upper lid with Pellier's silver elevator) with a common cataract knife I made a free crucial incision into the cornea, below the pupil. The aqueous humour all escaping in a sudden gush, brought in its tide the worm with it, which did not long survive the change of its situation, continuing to writhe about as if in the agonies of death.

The eye was now secured, much after the same manner as after the operation for extraction of the cataract from the human eye, taking measures to prevent the animal from rubbing it against the manger. The wound healed without a bad symptom; the aqueous humour was soon re-produced; the sight was not in the least degree injured; and the animal rapidly improved in health, and became a great and deserved favourite on the turf at Calcutta, where he was afterwards sent, and won many races.

It is well to observe, that in performing this operation a strong light is desirable, as it is a satisfaction to the operator to see if the worm comes away with the aqueous humour. I have in two instances performed this operation, when the aqueous humour spirted into my face, and then fell on the ground, and the worm could not be found, although from the favourable issue of the cases I infer that it must have come away. The worm does not always confine itself to the aqueous humour in the anterior chamber. I have seen it disappear, apparently, behind the iris, and return again through the pupil.

One cannot but conceive, that much mischief is likely to arise from the long continuance of the worm, even in the anterior chamber. How much more injurious would it be in the posterior and more sensitive parts of the organ, and out of the reach of observation. It is true, that I have no means of knowing it to be the fact; but, nevertheless, I firmly believe, judging from probability alone, that many eyes are lost from the same cause, simply by the inflammation and ulceration which are likely to be produced by the presence of an irritating foreign body of this kind.

## THE EFFECT OF IODINE ON FARCY AND GLANDERS, IN THE OPINION OF THE FRENCH VETERINARY SURGEONS.

I PROMISED, at the close of the leading article in the last number of THE VETERINARIAN, to inquire into this. The first account which I find of the employment of iodine in veterinary practice, was in 1819, on the horse, by M. Mayor, M.V. at Geneva. The syndic of that city had a horse with bronchial inflammation and enlargement of the thyroïd glands; a rare disease in the horse, one which I never saw, but that is recorded by veterinary surgeons well worthy of credit, and may be readily supposed to exist in such a locality. In the dog and in the swine it is common enough. There is said, in this case, to have been an indolent tumour arising from an enlargement of one of the thyroïd glands. Mr. Mayor commenced with giving, three times in the day, three drops of the tincture of iodine, which he rapidly increased to twelve. In three weeks the enlargement had disappeared\*.

In 1824 it was used both under the form of ointment and tincture for goître in the dog, at the veterinary school at Lyons, and with perfect success†.

In 1825 it was used in the form of ointment of the hydriodate of potash by M. Prevost, in three cases, and with success, at Geneva; but it is not said on what animal; and in 1826 it was employed by the same gentleman on some dogs, and still with success.

In June 1826, it was applied, by the same gentleman, in the form of an ointment composed of ʒiiss of hydriodate of potash, and ʒj of lard, for enlarged glands under the jaw—probably the submaxillary glands. These diminished to a certain degree, but became harder and stationary.

In November in the same year a similar ointment was well rubbed into the same enlarged glands in another, and adhering to the jaw. In ten days the enlargement entirely disappeared‡.

Thus far the iodine appeared to have power over the thyroïd glands, supposing it to have been an affection of these glands; but there was an uncertainty with respect to the submaxillary glands. It caused their dispersion in the second case—it only diminished them in the first.

In 1827, under the management of M. Jacob, several hard

\* Journ. Pratique, 1827, p. 241.

† HURTREL D'ARBOVAL, *mot* GOITRE.

‡ Journ. Pratique, 1827, p. 241, 261.

tumours disappeared from the udder of a mare, through the influence of the same ointment\*.

It was about the same time discovered, that some cases which had resisted the power of the hydriodate of potash, yielded to the ioduret of mercury. The general feeling, however, was in favour of the hydriodate of potash; and, as years passed on, it began to be more and more established in the good opinion of the medical public†.

M. Leblanc next entered the field, and exposed several glandered horses to the influence of an atmosphere containing a certain portion of chlorine. The experiments were interesting, and shall at some future time be recorded.

He continued the inhalation of the chlorine for a considerable period, and he gave iodine in doses of six grains daily of the mineral. The enlarged glands diminished, but the ulceration within the nostril was increased; a high degree of inflammation being excited by the constant presence of this irritating gas. He then determined to lessen the quantity of the chlorine, and sometimes to suspend it, and the following is the account of his experiments, and those of two other gentlemen to whom he was united in commission by the legal authorities.

*April 10th, 1828.*—A Normandy mare, seven years old, lame from navicular disease, had eight chancres in the left nostril—swelling of the venous plexus on the same side—discharge from the left nostril adherent to the nostril, and the intermaxillary gland on the same side enlarged.

During fifteen days he used fumigations of iodine for the nostrils, and an ointment composed of hydriodate of potash four drachms, pure iodine one drachm, and lard sixty-four drachms. But the salutary changes in the nostril not being so marked as under the influence of chlorine, he finally had recourse to the chlorine.

After forty days' treatment, the ulcers were cicatrized, the discharge from the nostrils had ceased, and the intermaxillary glands had returned to their natural size. There was no trace of glanders, but the cicatrices of the ulcers. She was destroyed ten days afterwards, and there remained only these cicatrices, and some miliary tubercles.

*10th May, 1828.*—Another mare, twelve years old, in good condition, but with frequent cough, entered the infirmary. She had four chancres on the septum of the left side, with an abundant discharge adherent to the nose. The maxillary ganglions were circumscribed (*circonscrits*), somewhat prominent, and tender.

\* *Réc. de Méd. Vét.* 1829, p. 104.

† *Traité Élément. de Mat. Méd.* par le Professeur Moiroud, p. 396.

At first, fumigations with bromine were used ; but this did not even produce such good effect as the iodine ; and consequently chlorine was here also substituted. Frictions of an ointment composed of brômuretted hydro-brômate (*d'hydro-brômate-brômuré*), the same proportion of bromine being used as of iodine in the former case.

In twenty-five days the mare was apparently well. She, too, was destroyed. We found nothing but the cicatrices in the nose, and hepatization of the posterior lobe of the left lung.

*20th. Aug.*—A draught horse, fifteen or sixteen years old, entered the infirmary. He was in good condition, but a roarer. There were two chancres on the left side of the septum, with a yellow discharge adherent to the nostril, and of a fetid odour. The chlorine fumigations and the ointment of the ioduretted hydriodate of potash were used. On Oct. 1st the horse was destroyed : the ulcers on the nose were cicatrized, as were two on the epiglottis. The lungs were sound.

*6th Oct.*—A fourth horse entered the hospital, nine years old, with bronchial respiration on the right side, and the coat staring. There were four chancres on the left side, and three on the right. Discharge from both nostrils fetid, and of various colours—the glands very much enlarged on both sides. The chlorine fumigations and iodine frictions were used.

In about fourteen weeks the ulcers were healed—a discharge continued on the left side, but the fetid smell and the adhesiveness of it no longer remained. There was a mucous *râle* on the right side.

On dissection, there appeared to be many chancres on the mucous membrane of the left superior turbinated bone, still unhealed. The cells of this bone were filled with white inodorous pus—the frontal sinus on the same side also contained pus of a like quality. The right lung was partly hepatized, and the bronchi were filled with mucus and pus.

It is probable that the first three horses would have continued sound, and been perfectly serviceable. “For our own parts,” says the reporter of the commission, M. Boisbertrand, “we believe that many glandered horses would be saved if the chlorine was resorted to soon after the appearance of the disease, and its use sufficiently persevered in. Although we have administered iodine and bromine at the same time with the chlorine, we think that we should have succeeded with the chlorine alone. In the following case the chlorine was effectual.

*“10th June, 1829.*—A gelding, eleven or twelve years old, came into the infirmary out of a stable from which we have had too many glandered horses. There were two unusually large chan-

crests high upon the septum, the discharge from the nostril was very glutinous, and the left intermaxillary ganglion was as large as a hen's egg, adherent, and tender.

"The chlorine fumigations were continued until the 24th of July; but on the 30th of June the ulcers were healed, the discharge was arrested, and the glands had returned to their natural size. He was sent to work on the 26th of July, and continues well at the present moment, more than two months having elapsed. A mare remains at the present moment, who has also been cured by the chlorine alone."

M. Leblanc then takes up the tale, and gives an account of a horse and a mare, plainly glandered, that were treated with the chlorine and the iodine, perfectly cured, and afterwards sold—purposely sold, that it might be seen whether such horses would stand work, and whether they were capable of communicating the disease under which they had laboured. They have hitherto worked well, and no infection has been communicated\*.

In 1834, M. Leblanc again takes up the subject, and gives the result of three additional years' experience of this mode of treating glanders; but he does not, like M. Boisbertrand, discard the iodine.

His first patient, in 1831, came into the hospital on Jan. 25th, and was discharged on Mar. 18th: on the 3d of Sept. he was well, when M. Leblanc lost sight of him.

The second, on Feb. 8th; discharged Mar. 24th, and then sold.

The third, on July 13th, and discharged Aug. 2d. Under M. Leblanc's inspection for a twelvemonth afterwards, and then lost sight of.

The fourth, on the same day; was discharged Aug. 26th. Sold.

The fifth was one of peculiar virulence—no fewer than twenty-six ulcers could be counted on the mucous surface of the nostril, of different sizes and depths, and all with the true salient edges. On the septum there were radiations of small eminences, some terminating in points, some rounded, and all of them filled with a concrete substance, mixed with a bloody fluid. The intermaxillary glands much enlarged on both sides, and very painful. Notwithstanding this, the horse was in good condition, and fed well. After eight days it was necessary to suspend the fumigations, on account of the irritability of the nasal membrane, and the bleeding from some of the ulcers. The steam of a hot bran mash was substituted. The chlorine was again tried, and

\* Journal de Méd. Vét. Theorique, 1831, p. 97.

again suspended from the same cause, and at length its use was persisted in. The ulcers gradually healed—the glands regained their natural size—the discharge ceased, and the horse returned to his work. During the whole of the treatment the horse had plenty of good hay and corn, and did not at any time lose his condition.

M. Leblanc thinks that this good, or rather high, feeding, is indispensable; and he attributes the loss of a great many patients to neglect in this particular, and especially to neglect of hand-feeding when the horse is not disposed to eat without coaxing.

Fifteen days after the complete disappearance of the symptoms of glanders the horse was sent to work, and to hard work. Two years and a half had expired, and he was well. At the moment of his writing, Jan. 15, 1834, the mucous membrane of the nose was covered by cicatrices.

Five other horses were likewise perfectly cured.

Four horses were submitted to the same treatment, without ultimate beneficial result. The ulcers healed, and the ganglions subsided only to reappear, and the animals were all destroyed. The frontal sinuses were in all of them affected, and filled with purulent matter. The fumigation could not reach the seat of disease. The sinuses should have been opened with the trephine, and I have since recommended this in bad and obstinate cases. Percussion will often detect the presence of pus in the sinuses, but is not always to be depended upon, especially when the surgeon uses his finger alone. A small pocket hammer would not often deceive. The disease of the sinuses appears to be consecutive to that of the nostril, and we should succeed oftener if we could combat the malady at its commencement.

Since the close of 1831, (M. Leblanc continues) I have had 53 horses either farcied or glandered, under my care, and 39 of them have been cured. The greater part of these were young horses, and in good condition when attacked. In too many cases the malady is ushered in by sudden loss of condition and appetite, and by a staring coat and tucked up flanks—and these are produced by excess of work, and little food, and, in many and many cases, are the veritable causes of glanders. Any place, however wretched, is thought to be good enough for a glandered horse; so that often, if death would not otherwise have been the result of the disease, it is rendered inevitable by unfeeling and shameful neglect\*.

In the same Journal, but in the following year, M. Patu, a

\* Journal de Méd. Vét Theorique, 1834.

cavalry veterinary surgeon, wields one of the same weapons, and that which alone concerns us in the present inquiry ; but he occupies a very different ground. In 1832, he had to treat eighteen farcied horses. His favourite medicine was iodine, but he had great difficulty in giving it : some of his patients would not be forced, and the medicine, in the doses in which he was compelled to give it, was very expensive. It struck him, in the summer of 1834, that, as recommended by Professor Dupuy with regard to a great many other medicines, he would inject it into the veins. He did so by means of a tolerably large opening into the jugular, and the introduction of a small tube resembling a catheter. Although he had in the course of treatment many openings to make in the veins of each, and there was sometimes considerable difficulty in introducing the tube, he had only one case of phlebitis.

He refers, as a specimen of the rest, to L'Allégro, a Norman horse, that had been under treatment seven months, for farcy, which had closely followed the insertion of setons in a case of intense pneumonia. On the 9th of July 1834, he received in the left jugular two drachms of iodine, dissolved in two ounces of alcohol ! The injection had scarcely been made ere the respiration became much disturbed ; it was short and frequent, and interrupted by a dry and convulsive cough, which did not entirely disappear during several days. The nostrils were dilated—the flanks convulsively heaving—indeed, it was dyspnoea carried to its greatest extent. The dejections were frequent—the pulse irregular, frequent, hard, and embarrassed—the subcutaneous vessels, especially those of the face, were prominent—the conjunctiva injected—the countenance haggard—the staggering gait which was first evident was succeeded by a remarkable stiffness or immobility—the temperature of the body was irregular—partial sweats broke out—the pulsations of the heart were obscure, sometimes intermittent, and a mucous r  le was heard on the application of the ear to the windpipe. Six hours afterwards the wounds, and the little pus which they furnished, had a yellow tint, like that which is produced by iodine when applied to the skin—the expired air exhaled the odour of chlorine—there was much anxiety of countenance, and the animal refused all food.

It was the same on the following day, only the animal expressed much pain when the buttons that were considerably ulcerated were pressed.

There was little change during four days, and then the appetite returned, and the tumours lost their newly acquired sensibility. On the 8th day, there was nothing by which the exhibition of the medicine could be recognized, and certainly no

advantage had been obtained. A month afterwards no symptoms of amendment appeared, and he was destroyed.

On the 17th of June he injected into another horse with inveterate farcy one drachm of iodine, dissolved in two ounces of alcohol. There was immediate fulness and acceleration of the pulse, with dry, painful, and continual cough, that continued some days. Encouraged on perceiving that the constitutional disturbance was now so slight, he selected twelve horses that had been many months submitted to the common treatment for farcy, but without the slightest good effect; and he determined that he would try on them the power of iodine injected into the veins.

From the 19th to the 25th of June, one drachm of iodine dissolved in two ounces of alcohol was injected into the jugular vein of these horses.

From the 26th to the 30th, the injection was suspended. From the 1st to the 4th of July it was again administered—from the 5th to the 8th there was a respite, and from the 9th to the 17th the injection was resumed. In the whole, the injection was repeated twenty times on each horse.

After the injection, the animal usually appeared stupid—he staggered—seemed as if he were drunk, and sometimes fell down. The respiration was short and frequent, accompanied by painful and irregular cough—the pulse was strong and frequent—the countenance haggard—the pupil dilated—the sight impaired—the vessels of the face swollen—the dejections passed with pain and groaning—the skin was damp—there was frequent yawning and grinding of the teeth, and the expired breath had an odour of chlorine. Presently there came on a kind of fainting or stupor, which lasted a little while. At the expiration of an hour and a half after the injection of the medicine, all this had passed away—the gaiety and the appetite returned, and, indeed, the horse ate with a kind of voracity. In some of the animals, many of these effects of the medicine were not observed—in others, they were exceedingly intense; but in all of them there was considerable cough.

At the commencement of the experiment an intractable horse fell, some seconds after the injection, struck his head on the edge of the manger, and died in a moment. The man who held this horse was an awkward fellow.

The principal post-mortem lesion was slight ecchymosis on the posterior wall of the right ventricle.

At the same time, two horses belonging to officers of the regiment became farcied—the one, in consequence of setons in the chest—the other had the stump of the tail entirely covered

with farcy ulcers. They were treated by iodine administered in drachm doses in the form of ball, and continued until they became perfectly cured: but he afterwards thought that they were cured by certain auxiliary measures, and not by the iodine.

On the 16th of July he injected the usual dose of the iodine into the jugular veins of the horses already referred to; but not having sufficient spirit of wine, he used sulphuric ether for two of them, which were now added to the list, and injected for the first time. Towards noon a groom came to him in haste, and told him that one of these horses was dead, and the other dying. He hastened to the stable, and found the one actually dead, and the other staggering—the skin cold—the pulse imperceptible—the conjunctival membrane of a violet colour, and the nostrils filled with a yellow foam, from which exuded a sero-albuminous fluid of a citron colour, and with which the litter was covered.

On opening these horses, three hours after death, the lungs were engorged with black blood, presenting no trace of old disease. The left ventricle of the heart was filled with uncoagulated black blood. The internal wall of the right ventricle presented a slight ecchymosis. The mucous membrane of the larynx, the trachea, and the bronchi was of a deep yellow colour, and the vessels were highly injected. In moving the dead bodies, a pint and a half of this fluid escaped; in fact, the presence of it had been, to a certain degree, the cause of suffocation. Neither the pituitary membrane, nor that of the pharynx, nor any of the other viscera, participated in this affection. The head was not examined.

Some time afterwards, a horse that had previously received many injections of a drachm of iodine in two ounces of spirit, died as suddenly, and exhibited the same lesions.

He now abandoned this medicament, convinced that it had no power on the lymphatic system of the horse; but it had an influence, and that a somewhat dangerous one, on the mucous membrane of the respiratory passages, and was calculated to aggravate rather than relieve those inflammatory affections of them, so frequent and so rebellious in veterinary practice\*.

M. Patu thus concludes his memoir: "When I joined the 4th Cuirassiers, four years ago, farcy was enzootic in it, and had effected frightful ravages. The great number of patients which I have had in that regiment since this period, have in-

\* In the "*Journal de Médecine et Chirurgie Pratique* (Fevrier 1835)" Dr. Ordinaire, speaking of the different preparations of iodine, says, "I do not contest these last properties which have been attributed to it (its power over the absorbent system), but I think that I have remarked that it has often an injurious influence on the membrane of the respiratory passages."

duced me to have recourse to all the medicines contained in the long list of prescriptions by different veterinary practitioners. I am compelled to add, that I have proved the inefficacy of them all, and that, in spite of the supposed progress that has been made in our knowledge of the nature and treatment of farcy, I am ignorant of the means by which I may act directly and safely on the circulatory lymphatic system. In fact, we have nothing that I am aware of to oppose to farcy, but good and abundant nourishment—healthy situations—as much isolation as is possible—constant gentle exercise, and the iron and the fire.

When I have applied these latter agents, the most difficult thing, the most tormenting, is to obtain the cicatrization—I will not say of the wound, but rather of the ulcers, in which there is no suppuration at all, or only developed, as it were, for a moment—that cicatrization which, after labouring a whole year, and varying in every possible way the means and appliances which surgery and pharmacy offer, and to the action of which these ulcers so soon habituate themselves, we are, perhaps, at length, fortunate enough to obtain\*.

In 1836, two years after the publication of M. Leblanc's memoir, the editors of the *Récueil de Méd. Vét.* review it. There has long been a great deal of disgraceful and injurious warfare among the French veterinary practitioners, and the reputation and progress of the veterinary art had much suffered. Two years had elapsed, and the editors of the *Récueil* might or ought to have known whether the curative measures of M. Leblanc had been put to the test by other practitioners, and with what result—they ought, at least, to have known what had been done in their own schools; and out of the 73 horses of which M. Leblanc gives a list, they ought to have had personal knowledge, in some of the cases at least, whether any of them had relapsed. They say not a word of this: they only say what might have been stated on the following day—that they regret that M. Leblanc had not been able to obtain the after-history of more of his patients, and that until he does furnish better proof, they must suspend their judgment. Not one word of this. The two subsequent years are passed over in total silence, and the review closes with the ill-natured remark, “we repeat it, that by a peculiar fatality, the different kinds of treatment that have been recommended as efficacious in the cure of glanders, have never preserved their efficacy but in the hands of those by whom they were discovered.”

\* *Journal Théorique*, 1835, p. 229.

Professor Vatel, in his standard work, "*Elémens de Pathologie Vétérinaire*," recommends the hydriodate of potash in farcy, "*with induration of the tumours*;" but he speaks in equally favourable terms of mercurial ointment, corrosive sublimate, and a combination of corrosive sublimate and turpentine\*.

Professor Moiroud, in his "*Traité Elémentaire de Matière Médicale*," says, "among all the diseases of animals, for the cure of which the preparations of iodine have been used, there is not one, with the exception of goître, in which there have been any numerous cases of success, or in which there is any encouragement to have recourse to them. When tried by ourselves and other veterinarians, in glands, they have utterly failed, as so many other supposed energetic means have done†.

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So far as the opinions and practice of the French veterinarians are concerned, I have nothing to add. I have hazarded no observation of my own, except with regard to the unfair critique on M. Leblanc, by means of which, fairly and candidly written, we ought to have been enabled to have lengthened the period of our history two full years. Here are, however, abundant means, and more, I trust, will be supplied by our own veterinarians, to enable some one of observation and experience to pass judgment on this much-lauded and abused medicament.—Y.

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## ON THE ACTION OF IODINE AND CHLORINE, WITH SOME OF THEIR COMPOUNDS.

*By Mr. W. J. T. MORTON, Royal Veterinary College.*

A PERSON having favourite views on any subject is very liable to have his mind warped or drawn aside by them; or he too often carries them to unwarrantable extremes. I am, therefore, glad that I am not the first to notice iodine and chlorine, with reference to their influence in certain diseases of which the horse is the subject; but I have for years taught, that by and by, their value would be appreciated; that they would become general remedial means in the hands of the educated veterinary surgeon; and the time appears to be fast approaching.

When the effects on the animal economy of either or both of these agents are reflected on, it is not too much to anticipate great good from their employment; but this being gained slowly only, it often happens that, before a fair trial has been given, or

a chance afforded them of effecting it, the patience of the medical attendant, and his employers also, become exhausted. There is another cause operating which has its weight. The remedies are comparatively new; and if the sanguine expectations of those who use them be not at once and fully realized, they are discarded as useless, and perhaps are designated as even worse than that; but it should be remembered that, when there has existed for a long time functional derangement in a part, a corresponding length of time is required for its restoration to health.

The agents now under notice are received as distinct elementary bodies; but in their chemical properties they closely resemble each other.

*Iodine*, viewed as a simple substance, takes the precedence of chlorine as an internal remedy. It appears to act as a stimulant to the nervous and vascular systems, of which excitement the absorbents partake; and by them it may be said to produce its beneficial effects on the system. Sometimes the heart is but little affected by it; and yet the arteries of the diseased part take on increased action,—I do not mean in number of beats, but in tone or power. Particularly is this the case in tumours; and for these and other morbid growths it seems to manifest a preference, leaving untouched the healthy tissues; still, by its long-continued use an emaciation of the whole frame may be brought about; and it is recorded that, when injudiciously given, glandular structures have become wholly absorbed. Whenever this does take place, the progress is rapid; hence care is called for in its employment.

*Chlorine* has more commonly been had recourse to as a topical application, for the purpose of cleansing unhealthy ulcers, destroying putrescence in wounds by decomposing the vitiated pus thrown out, thus setting limits oftentimes to mortification; it likewise powerfully modifies organic action, and has been known to suppress long-continued mucous discharges.

I have thus briefly enumerated some of the leading effects of these agents as introductory to the following. Of their compounds, two only will be here adverted to.

In 1835, Mr. Salter, V.S. of Eltham, did me the honour of asking my opinion respecting a case of suspected glanders, which Mr. Winter, V.S. of Blackfriars Road (both being then students at the College), had given up to him for experiment, the disease being considered by the owner, a medical man, incurable. The symptoms described to me were these:—The Schneiderian membrane on both sides of the septem nasi ulcerated; the submaxillary glands enlarged, particularly that on the near side, which was adherent to the jaw-bone; discharge from the nostrils con-

siderable, and offensive; appetite impaired, and the animal's condition extremely low. I recommended a trial of the iodide of iron, and, indeed, I expressed myself as feeling obliged to them if they would give it a fair trial. This they kindly consented to do, and commenced by exhibiting it in doses of ten grains twice in the day: this quantity was gradually increased to thirty grains; at the same time, at the request of Mr. Salter, a weak solution of chlorinated lime was injected up the nostrils, for the purpose of correcting the fœtor of the discharge. After a few doses only of the medicine had been given, a marked change was apparent. The appetite was improved, and with it the animal's general appearance; the ulcers assumed a more healthy aspect, and the discharge was less. The amendment continued daily to progress; and at the end of three weeks the discharge from the nostrils had entirely ceased; the ulcers were perfectly healed, the animal's appetite had returned, and his condition was materially improved; indeed, it might almost be said, that no abnormal appearance remained, except a little enlargement of the glands: but, unfortunately, the animal being of no use to the proprietor, he was destroyed.

Now, I do not wish an impression to rest upon the minds of any, that I think the iodide of iron is a specific for glanders, or that we have such a thing as a specific for any disease; or even that this related was a case of confirmed glanders; my only object is, to prove that the compounds of iodine are of value, and that this, among the rest, possesses much power; perhaps, too, it may provoke others to a trial of its merits.

If I were asked the form in which its administration is to be preferred, I should answer, that of solution, combining it with an infusion of calumba root and ginger.

Iodine was given at this institution as far back as 1827. Small doses were at first exhibited, and these gradually increased until *three ounces* were given twice during the day. No visible effects following this enormous quantity, I wrote against the recorded experiment "This agent may be considered of no use as an article of the veterinary materia medica." This I did in ignorance; for I am now firmly convinced, that both it and its compounds are of great value; but, to experience any real good from them, they must be given in small portions, and for a long period of time.

The inhalation of chlorine gas diffused through an atmosphere containing an excess of watery vapour, I have thought likely to prove beneficial in glanders, whether chronic or acute; also in affections of the bronchial passages, accompanied with a fœtid discharge; but this is merely speculative, and before it can be

rendered available, many trials are necessary: these, perhaps, some of your readers may feel inclined to institute; for "a word to the wise is sufficient."

## ON IODINE IN GLANDULAR ENLARGEMENTS.

*By Mr. N. COWELL, Hatfield Peverill.*

IN the spring of 1836, a friend of mine purchased a five-year-old pony, with enlarged submaxillary glands. I found, upon inquiry, it had had the strangles about ten months previously, and that the glands had begun to enlarge at that time. A farrier had tried setons, blisters, and mercurial friction, which aggravated the evil; and he gave him up as presenting an incurable case of glanders.

I could not think that it was a decided case of that loathsome disease, although there was occasional slight discharge from both nostrils; and there was loss of flesh, dejected countenance, staring coat, &c.; but I had immediate recourse to iodine, and gave ten grains of the hydriodate of potash morning and night, and the swelling was well rubbed with an ointment composed of one part of the hydriodate of potash and seven of lard. This treatment was persevered in for two months, at the expiration of which time an apparent cure had been performed. The swelling had entirely subsided, and his condition was so much improved, that my friend sold the pony for more than double the sum he had given for it. It continued quite well for about three months, when the disease returned with increasing violence, and (as I was informed) the animal was taken to London, and sold as a glandered pony.

### CASE II.

*July 3d, 1835.*—I was requested to see a bullock, belonging to a gentleman near Maldon. My patient, a handsome little highland scot, and lying in a pasture with very little inclination to move about, is wasted very much: he is evidently suffering severe pain, with hard tumours upon the hocks and knees.

He had been physicked several times, and a blister and charges had been applied to the swellings; but under this treatment he daily got worse. I then ordered five grains of hydriodate of potash night and morning, and the dose to be increased one grain daily up to fifteen grains; the tumours, at the same time, to be well rubbed twice a-day with the ointment of the hydriodate of potash.

20th.—He feeds better, and moves about better. The swellings also are subsiding. Continue powders and ointment.

Aug. 10th.—Much improved. The enlargements are fast yielding to the power of the medicine. The animal is gathering flesh very fast, and it bids fair to be a perfect cure.

Sept. 15th.—Well: discontinue the treatment.

Remarks.—Although the first case was ultimately a failure, I think that, had I been earlier in the field, or have pursued my treatment two months longer, it might have ended differently. The effects of the drug greatly exceeded my most sanguine expectations.

In the second case there was a permanent cure: and were there no other cases upon record, the above two satisfactorily prove (to me at least) that iodine is a highly valuable medicine in veterinary practice, and encourage us to hope that its beneficial effects may yet be extended to diseases in which we have not yet employed it. The person, whoever he may be, that puts it to the test, and records his cases, successful or the contrary, will confer an honour on himself and a benefit on the profession. I have at this time a case of scirrhus tumour in the udder of a mare, which shall appear (with your consent) at some future period.

[We shall be most happy to hear again from Mr. Cowell, on this or any other subject.]

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## ON EPIDEMIC OR CONTAGIOUS TYPHUS AMONG CATTLE.

*By Professor DELAFOND, Royal Veterinary School, Alfort.*

[We are pleased that the translation which was given in the July number of *THE VETERINARIAN*, of the distinction between variola and contagious typhus has yielded so much satisfaction to our readers. We were quite aware of some nosological errors of the learned Professor, and much disliked that personal feeling with regard to another veterinarian, which should have no place in essays like these.

Instead of pursuing the subject of inoculation for typhus, we turn back for a moment to inquire into the actual origin of this disease. The Professor gives an interesting and correct account of the origin and progress of the modern epidemics. We will only remark, that he here confines his attention to those aggravated forms of contagious typhus which are generated under the peculiar exciting causes of disease to which these cattle

were exposed. He believes, as much as any of our readers do, that cattle everywhere, if exposed to the influence of the same causes, or differing only in degree, will exhibit a similar, but milder disease—too often fatal, and frequently contagious—such is the murrain which occasionally occurs in our practice.—Y.]

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TAKING its origin in Hungary, the epizootic typhus of 1711 spread into Italy and Germany. Carried into the territory of Padua by an infected beast, it penetrated into the Milanese—the duchy of Ferrara—the country of Rome, and the kingdom of Naples. In the states of the Pope alone it destroyed 30,000 cattle\*. Leaving Milan, it advanced into Sardinia, and thence into Piedmont; and in this last province, rich in cattle, it swept away 70,000 beasts in 1714 and 1715; and at the end of 1717, the period at which for awhile it disappeared there, the number of victims had increased to 80,000.

From Piedmont it extended to Switzerland; it penetrated into France by the way of Dauphiné, ascended to the north, and then retraced its way to the south of our country, occasioning losses almost as great as in Italy and Piedmont.

From the centre of Italy, also advancing to the north, it passed the mountains of the Tyrol; and establishing itself in Germany, and at the same time avoiding the centre of Hungary, it penetrated into another part of the same empire, and reached the borders of the Danube.

Its continuance in Germany was short, but most destructive; and then it passed over into Alsace, and arrived in Brabant and Holland, and there it caused 200,000 beasts to perish. From Holland it reached the shores of England, where it was as destructive as in France, in Italy, and in Germany; and, finally, after having for seven years bid defiance to all means to arrest its progress, it assumed a milder character, and presently disappeared, after having destroyed more than 600,000 cattle.

At the expiration of twenty years it again appeared in Europe. It then broke out in Bohemia, among the cattle collected for the provision of the French army occupied by the siege of Prague. From this point it spread rapidly to the south and to the east, into Hungary, Bavaria, Styria, Corinthia, and the Tyrol: it once more descended into the fertile plains of Italy, and arriving at the feet of the Alps, it soon passed into the southern provinces of France. On the north it advanced into the centre of Germany, and passed into Holland.

\* The reader who has the work at hand may compare this history with that given by the author of "Cattle," in page 384, et seq. of that work.

From the province of Luxembourg, and traversing Alsace, it found its way into Franche Comté, Lorraine, and Flanders. It soon reached Picardy, and arrived almost at the gates of Paris, and ravaged most of the provinces in the centre of France. By means of some commercial transaction, it was conveyed a second time from Holland to England.

Until this epoch, no disease had been known to be so fatal among our domesticated animals; for, in spite of the sage advice of the most celebrated physicians of Europe, and the best sanitary measures that could be devised by the different governments, three millions of cattle were swept away by this epizootic. Its extinction was not complete until after a domination of ten years.

During the next twenty years—from 1750 to 1769—Europe was free from this typhoid epidemic; but during the years 1770 and 1771, it began to appear anew in Holland, and committed the most dreadful ravages. In one year it destroyed 98,000 beasts in the province of Friedland; in the south of Holland, in the same year 115,665 died; and in the north of Holland, during the same period, 225,831 were attacked, of which 162,276 perished: in short, 375,441, were lost in one year.

From Holland it spread to Austrian and French Flanders, and was not slow in extending over the whole of Laonais; whence it penetrated into the provinces of Picardy and D'Artois, to which it for awhile confined itself, and where it destroyed 11,000 animals.

Scarcely, however, had Flanders and Picardy begun to recover from their fearful losses, than it reappeared with new fury, in Hainault first, and presently afterwards in Holland. It soon thinned the herds of Flanders, and Picardy, and Soissonnais, and of Champagne; but the number of cattle that were then lost were never accurately reported.

Since the epizootic of 1740, the southern provinces of France, then, as now, containing numerous herds of cattle, had been spared by this bovine pest; but in the month of August it broke out all at once on the borders of the ocean, at Bayonne and its environs. From this point it spread in every direction, until it occupied almost the whole of France, from the south to the north. The provinces of the west of France, La Vendée, Brittany, and part of Normandy alone escaped. In some of the southern provinces, the number that were destroyed were so great that after the disappearance of the epizootic there were scarcely enough cattle remaining to cultivate the soil. The number was estimated at 150,000, and their value, 152,000,000 francs. During the wars of France (then a republic) with Austria and Russia, under the command of General Bonaparte, in 1793, 4, and 5, and

of which Italy was the chief theatre, an epizootic typhus appeared in some of the provinces of this beautiful country, and in the course of three years destroyed between three and four millions of cattle. In 1796 it broke out among the cattle forming the convoy of the French army occupying the borders of the Rhine. It propagated itself with frightful rapidity through all the departments in that part of France—it penetrated into Switzerland—it approached the gates of Paris. In the department of the Lower Rhine alone it destroyed 11,043 head of cattle; and in the twenty-seven departments which it more or less devastated, it swept away 130,000 beasts, whose value was at least twelve millions of francs.

About that period (1796) a calculation was made by Dr. Faust of the number of cattle that had been destroyed by this epidemic typhus in France and Belgium alone, and he estimated them at ten millions.

In 1814 and 1815, the coalesced armies arrived in France, bringing in their train numerous Hungarian and German bullocks, among whom this contagious typhus soon broke out: the malady was speedily communicated to the cattle of our own country, and in almost every department, except those occupied by the French army of the Loire, thousands of cattle were lost.

These historical researches into the appearance of typhus, and the mortality which it has occasioned at different epochs, prove,

1. That from 1711 to 1814 contagious typhus has manifested itself among cattle about once in twenty-three years.

2. That on each occasion it seems to have derived its origin from Hungary.

3. That it is by means of its contagious principle alone that it has been enabled to spread over so many parts of Europe.

4. That whenever it has appeared, it has caused great mortality among cattle, &c.

5. That on estimating the ten millions of cattle that died in France and Belgium alone, from 1713 to 1796, to have been worth only 150 francs each, there was a loss of 175 millions of francs\*.

What an enormous sum—and to be abstracted from one source only of national wealth—agriculture! how injurious its effects on every other branch of commerce and of wealth! how ruinous, at the time, to thousands of deserving individuals! and

\* The loss of cattle in England in the two epidemics of 1715 and 1746 could not be less than a million. More than eighty thousand were slaughtered by order of Government in the second epidemic, and thirty thousand died in Cheshire in six months.

how heavy the tax, through every after age, imposed on posterity. Who can assure himself that our cattle may not, at a very short distance of time, be again swept away in fearful numbers by this destructive pest. Its history has proved that it appears about once in three-and-twenty years. Its last visit was in 1815.

Then it is of the highest importance to inquire,

1st. Whether this typhus is of Hungarian origin, or springing spontaneously chiefly or only in Hungarian or German cattle?

2d. What are the causes which originally produced that malady in the animals of those countries?

3d. Whether the cattle of other countries are not equally exposed to contract it spontaneously?

4th. By what means the malady assumes an epizootic character, and spreads from country to country?

5th. What are the measures of sanitary jurisprudence which can or should be adopted to prevent its thus spreading from kingdom to kingdom?

In order to arrive at this important object, we will again consult the records which have been transmitted to us by our predecessors.

### *The Origin and Causes of Contagious Epizootic Typhus.*

The epizootic of 1711 derived its origin from Hungary, for it was an infected beast from that country which introduced it into Italy.

That of 1740 commenced with some Hungarian cattle that were attached to the French army at the siege of Prague.

That of 1770, first appearing in Holland, and was traced to the commerce in fresh hides which existed between that country and Hungary and Dalmatia.

That of 1774 was plainly derived from Holland. It passed from Holland into Flanders, Picardy, and Artois, and was carried into the south of France by means of the infected skins which, coming from Zealand, were unladen at Bayonne.

The epizootic of 1793, in Italy, was brought by the Hungarian cattle which were designed for the provision of the Austrian army, and which communicated it to the cattle of Lomeline, and of Alessandria, Novara, and Tortona.

It was among the German cattle that formed the convoy of the army commanded by General Jourdan that the typhoid epizootic of 1795 first appeared in the department of the Lower Rhine.

The typhus of 1814, in France, was brought by the Hungarian cattle that followed the enemy's army.

It appears, then, that in all the principal destructive epizootics among cattle that have prevailed in Europe, the point of starting has been, in every case but one, Hungary. This pest, then, is to be traced originally to this country, as the *plague* originated in the east. This is the opinion of Lancisi, Ramazzani, Leclerc, Layard, Vicq-d'Azyr, Paulet, Buniva, Leroy, and Metaxa.

Other writers, without contesting this origin of the disease, think that it may be produced spontaneously in cattle of all countries, if they are exposed to the influence of the same causes that gave rise to the development of it in the Hungarian oxen. This opinion was promulgated by Messrs. Rodet and D'Arboval, and we heartily concur in it. We know that, at the present time, typhus does not reign either sporadically or under an epizootic form, either in Hungary, or the whole of Germany. M. Huzard, sen. had full assurance of this in his intercourse in 1814 with the Austrian commissaries attached to this department of political economy; and M. Rodet, who had instituted the same inquiries on the spot in 1806, affirms, that the epizootics which sometimes arise among the cattle in Hungary are of the common exanthematous typhus (*typhus charbonneux*). On the other hand, German authors make no mention in their writings of sporadic or enzootic typhus in Hungary.

If so, veterinarians have thrown some difficulty on the origin of typhus: all agree in the following opinion—that the cattle of these countries, whether Hungarian, Dalmatian, or German, have a peculiarity of constitution which disposes them to contract a typhous affection, of a malignity and subtle contagiousness which has not been observed in the same disease of the cattle of any other country.

See, then, the causes which are more than sufficient for the development of an epizootic typhus.

Wherever war long continues to rage, typhus fever breaks out among the cattle. These two destroyers of men and of cattle are in some manner inseparable. Numerous facts prove this proposition. It was the war of the succession of Austria, or the seven years' war, as it is called—an epoch most disastrous, during which the French invaded successively, Silesia, Austria, Prussia, and the Austrian Low Countries, that the epizootic from 1740 to 1750 raged.

It was also in 1807, during the continuance of the war of France with Prussia, that the province of Elbing had its cattle swept away by a typhus, which afterwards spread over Eastern Prussia, and raged there two years.

The same malady broke out in 1810, among the oxen that followed the French army in Spain, and which communicated itself to the cattle of La Mancha, and destroyed great numbers of them. In 1814, as already mentioned, the Prussian army introduced this disease into France; and the wars of Russia with Turkey, in 1826 and 1827, will be long remembered by the inhabitants of Moldavia and Wallachia, on account of destruction of the cattle in those provinces.

With regard to the human being, the fact needs no laboured proof, that typhus is an invariable accompaniment of the movements of great bodies of men; and it is as surely found among the cattle that follow the troops. It is easy to conceive why the epizootic typhus has been always brought into France through the medium of Germany, Holland, Belgium, and Italy, because these kingdoms have been always the theatres of the grand European wars; and because the cattle destined to provision these troops have been always drawn from the vast pastures that border the Danube, or from Hungary and Dalmatia, in which these animals so plentifully abound. May it never be the destiny of our country to be invaded again by the Germans, the Prussians, the Russians, or the Dutch, for to that calamity—heavy enough—another would speedily follow, a contagious typhus, sweeping away our cattle.

The causes of this connexion between typhus and the march of armies are numerous, and constantly acting. M. Rodet has given us a faithful account of them: "The cattle which follow the armies are subjected to violent and frequent changes of country and climate and food—exposed, without having been previously habituated to them, to long and forced marches, and in despite of the intemperate heat or cold of the season or the air—sometimes receiving excessive quantities of forage, and that often of a bad quality, at other times destitute of all food, and sinking under fatigue—obliged sometimes to bivouac on the coldest nights in open and exposed places, and at another time crammed into stables so closely, that it is impossible for them to lie down, and forced to breathe an air impure and charged with every putrid and poisonous emanation—drinking plentifully one day of water fresh and cold, and on another, forced by thirst to drink as eagerly of that which is stagnant and putrid—these cattle, is it possible that they should avoid contracting the most fatal maladies, and especially contagious typhus?"

This disease, once declared among a crowd of animals as highly as possible predisposed to receive the infection, cannot fail of spreading in every direction. The subtle emanations which escape the sick animal, form around him a contagious atmo-

sphere, which daily and rapidly extends. From this first source of infection, the typhus is carried to every place at which the infected animals halt, or feed, or drink; and so the disease is soon established over a vast extent of country. It then attacks successively all the cattle in the province, if the march of the invaders cannot be arrested; nay, even if the enemy should receive a check, yet the pest has been too deeply sown, too widely established, and it will extend from farm to farm, and from commune to commune, until the whole kingdom becomes one infected ground.

If, then, epizootic typhus was not originally a product of our own country—if it appears chiefly among the cattle destined for the provision of our armies—if it has always arrived in France through the medium of Belgium, or the borders of the Rhine or of Italy, and at times when war has afflicted these kingdoms, or our territories have been attacked by foreign armies—if, starting from its original focus, it spreads successively through every part of the kingdom, the sanitary measures, by the help of which we may be enabled to oppose the march of the epizootic, and of which we must now treat, will comprise,

1st. A knowledge of the agents by which the typhus is propagated—of the means by which the threatened evil may be repelled, or the malady extirpated if it has begun to appear.

2d. If it has invaded some one or more of the departments—a knowledge of the means by which it may be confined to this infected spot: or if it has reached the centre of a commune, those by which the stables yet sound may be preserved from the infection that surrounds them: such will be the course pursued in the remaining articles devoted to the consideration of this subject.

*Recueil de Méd. Vét., Janvier 1837.*

## THE DISTEMPER OF DOGS, AS SEEN IN INDIA.

[We are indebted for this paper to the kindness of the Editor of *The Lancet*.]

DEAR SIR,—If canine pathology is not beyond the pale of the Journal which is so ably edited by yourself and copiously supplied with interesting matter, may I ask the favour of you to give the following concise case a portion of your columns? it will be interesting to the sportsman, and I hope not less so to the physiologist. On the first of September 1835, I was asked by a lady to administer some relief to her favourite dog Rover, a large pointer, five years old, which she thought to be

in a very hopeless condition. Being anxious to save the life of a sagacious and faithful creature, I inspected poor Rover, and found him suffering under the *lank* distemper, with an ulcer extending over the whole upper jaw, exposing the cartilages of the ear, and threatening the eye: it was about  $\frac{1}{4}$  of an inch deep, in a horrid sloughing state, with maggots. I even had some suspicion that the brain was not untouched. Before I tried any remedy, I referred to Mr. Blaine's famous work on canine pathology, and found the treatment for lank distemper, but nothing which would serve the desperate condition of the ulcer. In the lank, canine distemper, the object of the veterinary surgeon is, first to remove visceral obstruction, for which Mr. Blaine mentions remedies: these I did not think would answer Rover's case, and therefore made trial of the sol. chlo. sodæ in aq. cinnamon, 30 drops of the former to an 3 of the latter, ter in die, ol. ricini 3ss, ordering the ulcer to be washed with brandy and water, and covered with cloth dipped in tinct. myrrh.

*Sept. 2d.*—The oil has operated freely; he has taken the soda draught once in the evening; the dog is not so dull. The ulcer is cleaner, but there is still considerable sloughing. I directed the application of chalk and charcoal in fine powder; to continue tinct. myrrh; and the diet, a little meat boiled in rice.

*3d.*—The ulcer is clean; the extent of the disease is now exposed. Tongue of a lead colour, indicating an accession of disease; nose dry—a bad symptom in dogs, according to Mr. Blaine. Another dose ol. ricini was given, and the soda draught continued; the edges of the ulcer touched with nitras argenti: it was impossible to keep on any plasters on account of the struggling.

*4th.*—Rover is more cheerful: treatment continued; omit the tinct. myrrh, and dash salt water cold upon the ulcer, which is indolent.

*6th.*—The dog is thinner, and somewhat weaker: omit aq. cinnamon and sol. chlo. sodæ; tongue dirty; nose more moist; ulcer indolent. R Pulv. jalap. gr. xv, potass. supertar. gr. xxx, aq. menth. pip. q.s. M. ft. haust. stat. sumend.

*7th.*—Improvement: there seems healthy action in the ulcer; dash with salt water. Diet the same; more in quantity.

*8th.*—Much the same. R Pulvis. cinchon. lancy, 3jss., aq. fon. q.s. x. M. ft. haust., stat. sumend.

With this treatment, and now and then a purgative, he has quite recovered.

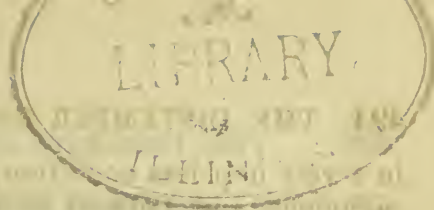
Yours,

*Sulkea, February, 1836.*

J. G.

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[There was nothing of distemper, lank or common, in this case. The cheek had probably become ulcerated from neglected cancer within the ear.—Y.]



## MEMOIRS OF THE VETERINARY SOCIETY OF THE DEPARTMENTS DU CALVADOS ET DE LA MANCHE, VOL II.

IN addition to the published Essays of many correspondents, in the last Report of this excellent society, there is a list of the titles of others that were presented and read, but not published. Some of them are on very important and rare occurrences in veterinary practice. We copy a few of them: we wish that we could give more than the titles.

The poisoning of a mare with digitalis. The quantity is not mentioned. The disease was farcy.

A description of six osseous productions, found in the stifle-joint of a horse. They were extracted, and a cure effected.

Cases of laminitis in many suckling foals.

Five pigs destroyed by indigestion, having eaten of green linseed in the pod.

Inflammation of the womb, apparently occasioned by several tæniæ which were found in the womb.

A mare producing a dead foal in the fourth month of utero-gestation, and another living one at the expiration of her term of pregnancy.

Retention of milk in one of the quarters of the udder of a cow, in consequence of a calculus in the passage.

An account of a colt with milk in the teats at the time of birth.

Singular ulcers around the verge of the anus in a colt.

Jaundice in a cow, caused by an enormous biliary calculus.

*THE VETERINARIAN, SEPTEMBER 1, 1837.*

*Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.*

### THE PROGRESS OF THE TURF IN FRANCE.

WITHIN the last few months there has been established in Paris a subscription club, composed of the best of those who are now eagerly rallying round and supporting the French turf, yet in its infancy. When the name of M. Auguste Lupin is mentioned as President, and Lord Henry Seymour as first Vice-

president, there can be no doubt as to the character of the club. The place of meeting is at Palmer's New Betting Rooms, at the gate of Maillot. This club is already proposing its stakes of 1000 francs each, for three-year-old colts and fillies, to be run at Chantilly in 1838, at Versailles in 1839, and at Chantilly in 1840.

A little previous to this, a FRENCH JOCKEY'S CLUB (so they curiously term it) was formed, with an account of the establishment and proceedings of which we hope to be enabled to present our readers. It is also composed of the leading sporting men; and many of the same names, and the very best of them, were enrolled in both. At the races in April last, in the Champs-de-Mars, under the especial patronage and support of this club, there was some excellent running. We add with pride, that the horses were almost entirely of English blood, and ridden by English jockeys. A union has been spoken of, and is much to be desired, between these two clubs. Their strength and zeal and influence being combined, the rapid improvement of the French horse would assuredly follow.

A third society, and better than either of the others, was founded in April last, and devoted, like them, to the amelioration of the breed of horses in France. It also has established, in various parts of the kingdom, races for thorough-bred horses; the prizes have been valuable, and many good horses, before comparatively unknown, have already been brought forward. They have likewise instituted periodical exhibitions for the best thorough-bred and half-bred stallions, mares, colts, and fillies; and while they have awarded prizes to the most deserving, their commendation has been yet more valuable and useful to the owners. Periodical markets or fairs have also been held under the patronage of this society. It speaks well for the spirit which is now beginning to actuate the lovers of horses in France, that the names of no less than seventy-one of the noblesse were subscribed as members of this society on the first day of meeting.

The title of the institution is "The Society for the Improvement, Breeding, and Sale of Horses of Luxury—Race-Horses, Hunters—Hackneys, Carriage Horses, &c.—of French Blood."

Properly confined at first to horses of this description, the influence of the society on the character of the agricultural horse, and on horses of every description in France, will not be long in developing itself. The horse that is to be improved must be originally of French origin; but the improver may be native or imported from any part of the world; and, to the credit of the British horse, it is, in the great majority of cases, obtained from England.

One thing more was wanting—a public register of the names, and breed, and achievements of these horses as a protection from the false pretences of impostors. That also has been obtained. We will quote from the French Journal, “Le Temps,” of the 11th of July last:—

“THE STUDS—*Race-horses*.—A few days ago the Minister of Commerce deposited at the bureau of the studs and of public instruction, at the Prefecture of the Seine, a book containing the genealogy of the race-horses at present existing in the different studs of France, and destined for the re-production of the breed. It is entitled ‘*The Stud-book*,’ and has been drawn up by a commission composed of the Duke Decazes, the Marquises de Marmier and de Pange, the Counts de Flahaute, d’Harcourt, Henri Lacase, Cambis, and de Montendre, and General Tourton. Never was so noble a commission formed to search out and to establish the genealogy of the thorough-bred horse.

“It contains transcripts of the birth and genealogy of 185 stallions of the English breed, and 179 breeding mares of the same race. There are also 156 stallions and 25 mares of Eastern blood. When this work shall have undergone the sanction of a public scrutiny, it will become the true golden-book of French chivalry; for it is certain that many a horse born in foreign countries and of base origin, has, through inadvertence or knavery, been entered on the noble list of true French blood-horses.”

The editors of the “Journal des Haras,” whose number for August now lies before us, finds grievous fault with this book, on account of the inaccuracies which it contains. Some few he has proved. But the grand fault, in his estimation, seems to be, that the *redacteurs* of this book have gone a great deal too far back, and especially in the list of animals of oriental blood. They

have included the additions—the noble additions—made by Napoleon, and others since collected from Syria, and Constantinople, &c. &c. They likewise include purchases made long ago in Hungary, England, &c. and some of the descendents of these, since crossed with pure English blood. The editor sums up his objections in this sweeping clause,—that “out of the 156 oriental stallions, only thirty-four are now alive.”

We have no wish to mingle in the disputes of these French writers, one of whom—the objector—the editor of the “*Journal des Haras*,” Le Comte de Montendre—belonged to the commission by which this book was drawn up and arranged: but we cannot help thinking, that the very circumstances which he states as objections, redound to the credit of the commission. They wished to carry their record back to the period when the improvement of the French horse, in good earnest, commenced; and to record, for the praise and gratitude of distant posterity, every one that had been engaged in so noble a work. Simply to have taken up the state of the horse in 1837, without any retrospective glance at what others had done, would have been the worst of all crimes, ingratitude to those to whose labours they are deeply indebted.

However, we have nothing to do with this—the stud-book is established—it will henceforth be the acknowledged record of equine reputation. It will be universally referred to as the standard of worth, and its influence on the breeding of French horses will be invaluable.

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The French government seems to have taken up this important object in good earnest.

In the year 1834, 198,268 francs (about £8178) were given to be distributed in the different departments for the purchase of stallions and mares, thorough and half-bred, in prizes for the best stallions, and the best mares and their produce, and in cups, money, &c. at different races. In 1835, 215,317 francs (about £8972) were thus distributed; and in 1836, 447,123 francs (or £18,430). This is good and commendable policy; and the result, in the improvement of the French breed of horses, will be most

satisfactory and rapid, if these monies are fairly and judiciously distributed.

It becomes other governments, and especially that of England, from whose country the means of improvement in the breed and character of the horse have long been chiefly and systematically and to a fearful extent drawn; and in which a system at variance with the full development of the power of the horse, and at variance also with humanity and common sense, has been for many years pursued—it behoves the government of such a country to awake, ere it is in this respect for ever fallen.

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In the July number of the “*Journal des Haras*,” is the announcement of a society in France for mutual assurance against the loss incurred by the death of horses, cattle, sheep, &c., and for the establishment and security of which a royal *ordonnance* will be sought. The Editor of this periodical most strangely says, that it will be useless to lay before his readers the rules and regulations of this intended society; and that he shall content himself with publishing the introductory address, “for it states in a clear and precise manner the actual wants of the country at this epoch, and the advantages of an institution in every respect beneficial and useful.”

We must withhold our opinion about this until we obtain an outline of the plan. The preface speaks fairly and truly of the advantage which has accrued from the insurance of our habitations and of every article of manufacture and of commerce, moveable and immoveable; but in no plan hitherto laid before the public has the live-stock of the farmer or the merchant been included; no provision has been made against the disastrous results of epizootics, or of unforeseen accidents, which have often more than decimated the flocks in various localities, and brought the farmer to utter ruin. He says that the time is now arrived, when, by means of a light sacrifice, all this may be avoided. This is all very good; but the precise object of the society—the extent to which it will go—the plain straightforward regulations by which it will be governed—we will wait a little for these: yet, in the mean time, we thought that the announcement of such a society would not be uninteresting.

We add, as connected with this subject, some observations on

“THE INFLUENCE OF THE INTRODUCTION OF RACES ON  
THE CONTINENTAL HORSES.”

By *Baron de MALTZAHOR CAMMERON*.

[Translated from the German Periodical, *Hippologische Blätter*.]

MANY years having passed since the introduction of races on the continent, the examination and the resolution of this question must be more useful and interesting than that of a thing of yesterday. There are some persons who object to the establishment of these races, and deny the good qualities, and the ameliorating faculty, of the horse of pure blood, to which we are indebted for their value. Words and writings are now of little value, if they are not accompanied by facts and proofs; and I demand of the opponents of the English horses of pure blood, to shew us, or to mention one good horse, which has not some of that blood in his veins. If they think that they possess such a horse, we are ready to oppose to him horses bred by ourselves, either on the course, or in the chase, or in any contest, for any distance, and with any weight.

In the solution of this question is involved not only a few thousand crowns that may be gained or lost at Paris, but the determination of a most important point,—whether *he* is blinded by prejudice and party spirit, who introduces into his stud one breed, the proofs of whose superiority are every day before us, or another, whose incomparable excellence exists only in the phantasies of his own imagination, or the vague and fabulous traditions of the East. The beau ideal of which these gentlemen dream is, happily, only a chimera; I say *happily*, for I am assured that, by pursuing the means recommended by them, and adopting all their unfounded notions, we should obtain horses that would be truly execrable.

Some persons pretend that the English horse is much deteriorated from what it was forty years ago. This assertion is not true; for every one knows that the half-bred horses are far better than they used to be; that the hunter is fleetier, and that the public carriages of every description travel twice as

rapidly as they did forty years ago ; and yet the coachman now rarely uses his whip, while at that time the poor horses were so shamefully punished, that one whip scarcely lasted through a single stage.

After this comparative statement of facts, I do not hesitate to acknowledge, that he who is not satisfied with the service rendered by the English horse at the present moment, does not know either that which he ought to exact or does obtain from him, or, in fact, does not know any thing about horses.

I abstain from long reasonings on this subject, and will not enter into any useless theoretical discussion ; I will content myself with stating a few facts in reply to the question with which I started, and leave it to better exercised pens to draw the legitimate consequences.

I say, then, that since the introduction of races on the continent, all our studs possess far more valuable stallions and mares than they did before ; and it is since the establishment of these contests of strength and speed that horse knowledge has been based on positive facts, and not on vain theories.

The experience and the trials of the horse that have been made in consequence of these races have caused us to know and to recognize the best breeds. We have searched into the history of past ages—we have examined the annals of each successive race of horses—and we have discarded the prejudice by which we, among others, were once led astray : we no longer judge of a horse by his exterior appearance alone, but by the quality of his blood, the fame of his ancestors, and his own inherent qualities.

These races have made us adopt a better system of training the colt. He has more abundant food, and of a better kind. He is more regularly and strongly exercised, and his education is far more simple in its object, and much better followed up. Formerly, horses were kept to the age of five years without being scarcely employed ; they were enervated by our care : at present they are taken into exercise at two years old, and that favours the development of their muscles and tendons, and gives previously unknown vigour to every native faculty of the animal.

The races, which have the additional advantage of making good riders, have shewn the inutility, and even the evil, of employing the oriental horse in our studs.

The number of these contests increasing every year, proof has also been given that the continental states were not so unfit and unprepared for them as many persons thought; for private individuals have found means to create and to continue these exhibitions, with very little assistance from the government studs.

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We have more than once had occasion to express our opinion of the operation of nicking the horse. That the action of the erector muscles of the tail gives him a character of energy and spirit, when he is roused to exertion, cannot be denied; and that the nicking—the division of the depressor muscles, and thus the removal of their power of action—perpetuates this appearance of life and vigour, is plain enough; but against the horrible barbarity of the pulley, by which the tail is kept curved until the incisions are healed, we have again and again entered our decided protest; and we have seen with pleasure that, although too many horse-owners would continue to have recourse to it, it was, comparatively speaking, getting out of fashion. Still it was occasionally practised, and would be as long as the horse was our slave.

We chanced the other day to see an apparatus, very simple in its construction, yet perfectly answering the intended purpose, by means of which a truss is adapted to the under surface of the tail for the purpose of raising it to the necessary height after the incision, without the old and cruel method of pulleying, by which the horse is kept so long in horrible torture, and also—an inferior consideration, yet not without its weight so far as the after appearance of the horse is concerned—without the possibility of destroying, or injuring, or twisting the hair.

The tail is securely fixed in the truss, and the horse may be safely turned loose into a stable or yard, without the least danger of friction or inconvenience.

This apparatus is the contrivance of Mr. W. Baker, V.S. of Dedham, in Essex, and may be procured by application to him. As disarming this operation of many of its objectionable circumstances of barbarity, as well as better securing all its supposed advantages, we cordially recommend it.

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### Veterinary Jurisprudence.

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#### ACUTE INTESTINAL INFLAMMATION, CAUSED BY THE ACCUMULATION OF GRAVEL.

*By M. HAMONT, M.V. Lamballe.*

ON December 3d, 1836, at eleven at night, I was desired by Mr. Lerait, livery stable keeper at Lamballe, to look at an entire horse, four years old, very much out of condition. The proprietor suspected that he had hernia (*d'être atteint d'un effort*). He had bought him two days before. The horse had been ill fed; and M. Lerait thought that from the evening on which he purchased him he had been very dull. On the following day he had lent him to a person, who had only driven him five leagues, when he found that he could not get him any farther. He had him led back to Lamballe, where the horse arrived in a great deal of pain, and after having fallen down many times. It was impossible, however, although he was supported on either side, to bring him so far as the house of the owner. Some one had bled him on the road.

It was five hours after his arrival at Lamballe that I saw him. He was lying on his right side—his body covered with a cold sweat—the mucous membrane pale and cold—the respiration much accelerated—the pulse small, and scarcely to be felt—the posterior limbs stiff and cold, and only executing, now and then, some partial movements. The belly was slightly swelled, but pressure on it did not cause any pain. Having examined him by the rectum, I remarked that there was a hardness of the colon, especially towards the pelvic curvature, and that the bladder was distended. Pressure on the neck of the bladder was very painful, and the urine was voided only by jets.

I gave it as my opinion, that the horse laboured under acute inflammation of the bladder, complicated with some intestinal

lesion, and that death was near at hand. The animal died half an hour after my visit.

The proprietor, in order to be prepared to commence an action for the recovery of the sum which he had paid for the horse, presented a petition to the tribunal that a post-mortem examination might be ordered: it did not, therefore, take place until forty-eight hours after death. Being appointed by the tribunal to conduct this examination, I performed it in the presence of the parties.

From the pelvian curvature to the origin of the floating portion of the colon, the external parietes of the intestine presented a livid black colour. After having cut into the intestine, I found it filled with a hardened mass, which diffused the most infectious odour. The greater part of it consisted of a vast quantity of gravel, some of the particles of which were as large as an ordinary pea, and very irregular in their form: some were flat, and resembled chippings of slate. Among the portions of aliment were, here and there, pellets, some of which were as large as a hen's egg; one of them was considerably larger, and occupied the contracted part which is found at the origin of the floating portion of the colon. On the surface of the mucous coat, throughout the whole extent of the colon, was a layer of sand, finer than that which composed the pellets. I collected a quantity of this sandy and gravelly matter, which weighed five pounds. The mucous membrane, through the whole extent of the colon, contained gangrenous spots, which were exceedingly foetid. In many parts the muscular as well as the mucous membrane was destroyed; and on the portion of the peritoneal membrane that was then exposed there were many patches of ecchymosis; and, here and there, grains of sand were buried, or, as it were, set in the parietes of the intestines.

No other portion of the intestines contained any morbid lesion, or inclosed any foreign body. The stomach was sound.

The neck of the bladder presented evident traces of inflammation. There was nothing unusual in the kidneys, the liver, or the spleen, except that they were unusually pale. The blood, small in quantity, was black and pitchy, as has been observed in diseases characterized by a change in that fluid.

After all these lesions, I could not hesitate to decide against the seller; for, although the animal had died of an acute intestinal disease, and which, perhaps, had commenced since the sale, yet that disease was, without doubt, caused by the presence of the gravel, and that gravel had certainly existed in the intestine before the sale. The law proceedings were not pushed far. The seller, who had not had the horse more than a few days, and

whose legal time of calling on the former vendor was not expired, sent to him the summons which he had received from Leraït, and a copy of my opinion. His money was immediately returned to him, and he immediately refunded to M. Leraït the sum which he had given, and so the affair terminated.

It appeared from information which I obtained from the three parties interested, that this horse had been bought from a district through which ran many little shallow streams, and had passed the summer there. Finding no water but that which was contained in these rivulets, and which was scanty in them, and scarcely covered the sand and gravel over which it ran, the horse was always obliged to put his lips within a little distance of or close to the gravel before he could suck up enough to drink. During this sucking a portion of the sand would inevitably enter his mouth and find its way with the water into the stomach and intestines. This cause continuing to act during a space of four months, the quantity of these bodies, although but a little was taken at a time, would gradually increase to such a degree as to interfere with digestion, and to produce all the phenomena that have been described.

Perhaps all the lesions that were found would have sooner taken place if the horse had been worked ; but as he had nothing to fatigue him, the only apparent effect of his bad state of digestion was a gradual loss of flesh. As soon, however, as the nutriment was increased, and the exercise increased too, the digestion, which before had only been equal to the disposal of (whether well or ill) a certain quantity of ordinary food, now could not act at all, and acute inflammation of the intestines, with gangrene, was necessarily developed.

Many proprietors of cattle in the country in which I practise have assured me, with reference to the action of these foreign bodies introduced into the digestive passages of the herbivora, that, in the year 1834, a great number of cattle died in many of the districts of Brittany, on the opening of which there was found a great quantity of sand in the fourth stomach and the small intestines, and which had doubtless determined fatal inflammation of the bowels.

*Réc. de Méd. Vét., Mars 1837.*

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## Review.

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Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

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A MANUAL OF PHARMACY FOR THE STUDENT OF VETERINARY MEDICINE; containing the Substances employed at the Royal Veterinary College, with an Attempt at their Classification, and the Pharmacopœia of that Institution. By W. J. T. MORTON. Longman & Co.

WE have made few literary announcements with greater pleasure than we do this; for there was nothing more connected with the wishes, and the wants, and, we are perfectly assured, the improvement, of the veterinary pupil. Some whose kind intentions we shall never misunderstand or forget, and whose chemical attainments are far above our praise, had liberally opened the doors of their theatres to the student of animal medicine; but the distance was great—more time than the youth had to spare was occupied in travelling from one place of instruction to another—the illustrations of the subject were drawn from human and not from veterinary medicine, and therefore, as Mr. Morton well observes, “the sources of knowledge were not always to him correct;” and the pupil, as well as the practitioner, had begun deeply to feel that the time had arrived when the increasing improvement and worth of our profession required that our sources of knowledge should be mingled with no circumstances of degradation, but should be found within the walls of our own alma mater.

Of the previous Pharmacopœia of the Royal Veterinary College we will say nothing—*de mortuis nil nisi* what we could not here honestly say. Mr. Morton’s previous education—his unwearied habits of industry, and the zeal with which he devotes all his energies to a subject worthy of them, united to mark him out as the individual from whom the pupil and the profession were to receive this boon. We regard it as another pledge of that onward march of improvement which has at length, we trust, commenced, and which it requires only honest devotion to the real interests of our profession, and the exercise of a little kindly feeling, to work out to a considerable and most desirable extent.

Almost every one of our readers will, we doubt not, quickly put himself in a situation to judge for himself of the execution of this little work. We will now enable him to do so in some

measure, by quoting one article, and which we are induced to select because it is the subject to which several pages of the present Number are devoted.

“IODINUM, *Iodine*.

“Iodine and its compounds have not yet come into general use amongst veterinarians; I have little doubt, however, that they will. Iodine is obtained from the mother water, after the procuration of carbonate of soda from sea-weeds. The available compound which remains is an hydriodate of soda: sulphuric acid being poured on this, it seizes on the soda, setting the hydriodic acid free.”

He now relates the chemical process by which this is accomplished.

“Iodine is solid at the ordinary temperature of the air, and occurs in dark-coloured scales, which have a metallic lustre: when sublimed, it forms rich violet-coloured vapours; hence the name given to this substance. It has a pungent odour, an acrid taste, and it tinges the skin of a brownish-yellow colour. Weight of its atom 126. Its action is that of a stimulant to glandular structures, and the forms in which it is employed externally are those of a liniment and ointment.

“LINIMENTUM IODINII COMPOSITUM, *Compound Liniment of Iodine*.

“Take of Iodine ..... 1 part  
Soap Liniment ..... 8 parts.—Dissolve.

“UNGUENTUM IODINII, *Ointment of Iodine*.

“Take of Iodine ..... 1 part  
Lard ..... 8 parts.—Mix.

Some substitute for lard the milder ointment of mercury, by which a far more active compound is formed. Others add half a part of cantharides in powder, or tartar emetic.

Administered internally, the form of tincture is advocated.

“TINCTURA IODINII, *Tincture of Iodine*.

“Take of Iodine ..... 1 part  
Rectified spirit... 8 parts.—Dissolve.

The dose of this is from ʒj to ʒij, given twice or thrice a-day. In the practice of Mr. Packwood, of Coventry, farcy has yielded to it.

“POTASSII IODINUM, *Iodide of Potassium.*

“Dissolved in water, this becomes an hydriodate of potassa.

“If a solution of potassa be poured upon iodine, there are produced an iodate and an hydriodate of potassa, the latter of which may be separated from the former by means of rectified spirit, and the salt may be obtained pure by evaporation. This simple form of Majendie has given place to a more complex one, that of forming an hydriodate of iron, and decomposing it by carbonate of potassa. For this purpose, 124 grains of iodine and 50 or 60 grains of iron (this in excess being an advantage) may be mixed with two or three ounces of oil in a Florence flask, and heat applied, by means of a lamp, until the liquid becomes clear. The solution of the hydriodate of iron being filtered, to it is added a solution of the carbonate of potassa, taking care that no more is added than is exactly necessary to decompose it: carbonate of iron is precipitated, and hydriodate of potassa remains in solution. When this is evaporated, and the compound obtained in crystals, it is an iodide of potassium.”

Here follows a useful table of the decompositions.

“Mr. YOUATT and Mr. KARKEEK both speak highly of the iodate or hydriodate of potassium. The dose may be from twenty to thirty grains.

“It does not appear to accumulate in the system, like iodine, the kidneys being the emunctories by which it is ejected: it is easily detected in the urine, after it has been administered but for a short time. It is also more certain in its action. As a topical remedy, the form of ointment is preferred.

“UNGUENTUM POTASSII IODIDI, *Ointment of Iodide of Potassium.*

“Take of Iodide of Potassium . . . . 1 part  
Lard . . . . . 8 parts.—Mix.

“The action of iodine and its compounds is most markedly seen in glandular structures and newly formed parts, for which they seem to manifest a preference. Their influence is on the absorbents, and through them, when these agents have been long and injudiciously given, it is recorded that even the mammæ of women and the testes of men have been removed. In chronic enlargements of the submaxillary, parotid, mammary, and other glands, in tumours of long standing, for thickening of the integuments, and indurated swellings about the joints, and even for unhealthy ulcerated surfaces, the use of the compounds of iodine is indicated, combining both their internal and external employ-

ment\*. Unfortunately, it is too often the case that, if the sanguine expectations of the practitioner be not at once realized, the agent is discarded as useless. Now these agents rank amongst those whose operation is slow, but which, at the same time, constitute an important class, as their effects are abiding."

This little book contains a sample of the more practical part of the lectures on Chemistry and Pharmacy which Mr. Morton is in the habit of delivering at the College. One word, and one word only, to those whom it may concern—Do not these lectures deserve a little larger and a little more convenient room for their delivery than they at present obtain? They would not disgrace it.

Another last word! We have in the work before us a most useful companion for the laboratory and the pharmacy. Retaining "Percivall's Anatomy," as an invaluable book of reference, there is another desideratum, a pocket manual, yet not too small either, of equine, and somewhat of comparative anatomy for the dissecting-room. There is a gentleman competent, fully so, to the task, on whom the eyes of the profession are fixed. He has earned many laurels—he has others to reap;—but we dare not—we have no right—to say another word.

Y.

### Miscellanea.

#### CRUEL EXACTIONS OF STRENGTH AND SPEED.

WE trust that there will be, as there was in England, sufficient good feeling on the continent to discountenance, and altogether put down, those matches against time for long distances which were, some time ago, becoming the disgrace of the former country. We insert, with much regret, some late cruel proceedings abroad.

A match was made on the possibility of a horse being ridden by the same groom from Paris to Rouen, a distance of thirty-one leagues, in seven hours.

A little groom, thirteen years old, named David, weighing with his saddle and boots sixty-three pounds, started at 2 o'clock in the morning on the selected horse, from La Place Louis XV. He was accompanied by another jockey, named Hawes, who was to change horses every five leagues. He arrived at Ménil-Esnard, a league from Rouen, having an hour and thirteen mi-

\* But I fear we must not have recourse to the aid of the mild mercurial ointment, and, least of all, the cantharides or the tartar emetic.—Y.

minutes remaining, and he calculated on accomplishing the task in three quarters of an hour less than the time appointed. The heat was excessive, and a dreadful storm, which then burst upon them, rendered it almost impossible to proceed. He urged his horse on, until the noble animal dropped exhausted. There must have been foolish bets on the accomplishment of the task within certain shorter periods than the time allowed; for the animal, however tired, might have walked the distance from Mésnel-Esnard to Rouen, one league only, in an hour and a quarter.

The animal fell—the proprietor endeavoured to bleed him, but in vain; and, rather than the horse should live in torture, he had him immediately destroyed. This conduct of the loser exhibits much good and honourable feeling; yet we cannot help lamenting that so noble an animal should thus perish.

The same horse had, in the last winter, gone from Paris to Chantilly and back, twenty-one leagues, in four hours and forty minutes. These are cruel experiments.

The second exhibition took place in Germany. Count Sandor betted a considerable sum that he would drive the same pair of horses from Presbourg to Vienna, thirty-six and a quarter English miles, in three hours.

The Count was ready at the starting-post on May 11th; but an accident having happened to one of the watches, the judge could not give the signal, and the affair was postponed. The Count being compelled to be at Vienna, set off immediately in the carriage which had been prepared, drove his horses half way, and rode on horseback the remaining half. On his arrival, notwithstanding that the rain fell in torrents, and his horses had undergone some fatigue in the morning, he fixed on the 14th, for the coming off of the match. It rained the whole of the 12th and 13th, and it was the universal opinion that, over such roads, it was impossible to execute the task, and that the Count would pay the money, rather than run the risk of killing his horses. He, however, accepted all the bets that were offered him, and started. He had not over-rated the speed or the stoutness of his horses; for he ran the distance in two hours and forty-two minutes, having eighteen minutes to spare.

The Count drove himself—his carriage was a kind of *char à bane*, weighing about 380 pounds. He drove the first twenty-four miles in one hour and fifty-five minutes, and the other twelve and a quarter miles in forty-six minutes twenty-five seconds. His speed during the last five miles was so great, that many persons on horseback, who had come to meet him, were unable to keep pace with him, and were fairly distanced, although their horses were fresh compared with his. It was with some difficulty that

he could stop them when he had arrived at his journey's end ; and they did not appear to be in the least fatigued, although the road, composed of soft earth and of great flints, and one of the worst in Austria, had been rendered still heavier than usual by the incessant rain of two days. Other difficulties also were to be surmounted. He had no fewer than nine villages to pass, at each of which his passport was examined ; beside which, the road was very hilly, and particularly so in the direction from Presbourg to Vienna, and his horses were not more than fourteen hands and a half. They were Hungarian horses, bred in the stud of Count Sandor. A nobleman who accompanied him part of the way, and before it was certain that he would win, offered him 6000 f. (£250) for them.

Count Sandor has since offered considerable bets that he would drive the same horses thirty-six and a quarter English miles in two hours and a half ; and also, that in twenty-four hours he would drive the same horses from Vienna to Pesth, eighteen German posts, and over the greater part of the intervening country there being scarcely the trace of a road. Neither bet has yet been taken ; and we hope, for the sake of the noble horses and the after-reflections of the Count, that the latter trial of speed and stoutness never will be made. Y.



#### THE AGRICULTURAL MEETING AND SALE OF SHEEP AT RAMBOUILLET.

THE agricultural meeting was held on the 21st of May. Prizes were distributed to the best ploughman and to the inventors of the best ploughs, and also to the inventor of a roller, with a harrow attached, and a brush to keep it free. The cattle were few in number, but very superior. A golden medal was presented to M. Peschard d'Ablis for a superb bull of the Norman race. We confess that we viewed with pleasure and surprise the fineness of the wool, and the beauty of the form of some sheep, belonging to M. Boiseau de Wallerand ; but these, together with some belonging to M. Peschard d'Ablis, having obtained prizes at the last meeting of the society, could not now compete. The gold medal was awarded to M. Lamey, jun. The first prize for a farmer's horse was given to M. Durand, of Poigny, for his Rohan grey horse, four years old ; and an iron grey horse, two years old, got by a stallion belonging to M. Dailly, obtained a gold medal. The first prize for a

diligence horse was awarded to Madame de Cibois, of Clairfontaine.

A prize was given to M. Garnier, of Plenet, for the skilful manner in which he had recovered some waste land; and honourable mention was made of MM. Leroi, d'Ablis, and Isambert of Mery, for their scientific mode of conducting their farms.

On the 16th of June a sale of sheep and wool belonging to the king's flock of merinos took place at Rambouillet. The wool was not sold, for no greater price than 2f. 50c. per kilogramme\* was offered for the ewes' wool, and 2f. 80c. for lambs' wool; nevertheless, wools far inferior have lately been sold at a superior price at other markets.

Fifty rams were then sold in separate lots. No. 40, that of the highest price, 2687f. 50c. (£111..19s..7d.) including the expences of sale, was bought by M. Symphal, of the department de l'Aisne; No. 30 was sold for 2150f. (£89..11s..8d.); No. 9, for 1827f. 50c. (£76..2s..11d.); and No. 44 for 1290f. (£58..15s.). The lowest price was 274f. (£11..9s.), and the average price 594f. 36c. (£24..15s..4d.). A dozen ewes were sold at 75f. 25c. (£3..2..6d.) each, and 58 others in one lot at 3117f. 50c. (£129..17s..5d.)

Thirty rams and sixty ewes of the Romney marsh and the Dishley breed have been lately purchased in England, imported into the department of Pas de Calais, and distributed among the farmers. These will much ameliorate the native breed, and increase the quantity of superior long wool, the use of which is every day becoming more extensive in France. Government should not be inattentive to this.

### PHENICIAN SUPERSTITIONS.

THAT in early times there was considerable commercial intercourse between the Phenicians and the inhabitants of Britain is a matter of history. The greater part of the lead and tin used in the eastern world was procured from the British islands; but no record speaks of the article that was given in barter. Several of the superstitions of Phenician origin, until very lately, were to be traced, or even still exist, and one of them is not foreign to the object of this periodical—the preservation of our domestic slaves.

“Belus, or Bel or Baal, the son of Nimrod, was deified soon after his decease, and was worshipped with various superstitious rites. Fires were kindled in honour of him, human beings were

\* The French kilogramme is equivalent to 2lb. 3oz. 5dr. of English weight.

often sacrificed to him, or, when the worship did not assume a savage character, the person or animal for whom protection was entreated, rushed, or was driven, rapidly through the flames.”—*Treatise on “Cattle,”* p. 91.

“On the first of May the herdsmen of every village in the Highlands hold their *Bel-tein*, or rural sacrifice. They cut a square trench in the ground, leaving the turf in the middle; on that they make a large fire, on which they dress eggs, butter, oatmeal, and milk, and bring, besides, the ingredients for the caudle, plenty of beer and whiskey, for each of the company must contribute something. The rites begin by pouring some of the caudle on the ground by way of libation, on which every one takes a cake of oatmeal, with nine square knobs raised upon it, each dedicated to some particular being, the supposed preserver of their flocks and herds, or to some particular animal, the real destroyer of them. Each person then turns his face to the fire, breaks off a knob, and flings it over his shoulder, saying, “This I give to thee! preserve thou my horses; this to thee! preserve thou my sheep;” and so on. After that they use the same ceremony to the noxious animals. “This I give to thee, oh fox, spare thou my lambs; this to thee, oh eagle; this to thee, oh hooded crow!” When the ceremony is over they dine on the caudle.”—*Pennant’s Tour in Scotland in 1769*, p. 100.

“In Ireland *Bal-tien* is celebrated on the 21st of June, at the solstice. There they make fires on the tops of the hills; every member of the family is made to pass through the fire, for they reckon this ceremony to ensure good fortune through the succeeding year.”—*Macpherson’s Critical Dissert.*

#### DESTRUCTION OF WILD ANIMALS IN FRANCE.

IN most of the French arrondissements persons are appointed by government to hunt and destroy the wild and noxious animals that yet remain in France. A return of what was done during the season 1835-6, has lately been made, from which it appears that MM. les Lieutenants des Chasses killed 216 male wolves, 122 female ditto, 303 wolf-cubs, 476 wild boars, and 1479 foxes. In addition to these are the proceeds of the regular hunts, established in various parts of France, of the wild boar and the fox, and sometimes of the wolf. If we add but one-sixth to the number destroyed by the government officers, we shall have more than 3000 of these beasts of prey got rid of in one season. A very pretty state some of the mountainous parts of France must be in.

## NOVEL ADVERTISEMENT.

It is an old saying, that there is nothing new under the sun ; but we much doubt whether an advertisement similar to the following was ever before submitted to the public. We extract it from the “ Journal des Haras.” We insert the whole of it, for it is all the production of one pen :—

*Manège Hygiénique.**Riding School for the Preservation or Restoration of Health.*

In all ages riding has been considered as a mode of conveyance (*une gestation*) exceedingly useful in a medical point of view, and has been classed among the most efficacious tonics. In order to prove this, it will be sufficient to cite a passage from Sydenham, the most celebrated physician of his time, who in the strongest terms recommended riding as a therapeutic agent. “ I have often thought,” said he, “ that if any one was in possession of a remedy as efficacious as horse-exercise, and would keep it a secret, he might easily amass a great fortune.”

It is evident that horse-exercise acts upon the human frame as a powerful tonic ; but, in order that it may be usefully employed, certain rules must be attended to, corresponding with the temperament and the malady of the individual. A stranger to the healing art could not possibly thus adapt the one to the other ; for such is the difference between the various breeds of horses and their paces, that it is far from being a matter of indifference to the healthy, much more to the sick person, what kind of horse he mounts. Some persons labouring under certain affections are not able, at first, to bear the least horse-exercise, simply because they have not at their disposal a horse whose paces suit their complaint ; and, therefore, they have concluded that riding, if not injurious, is at least unpleasant and useless. That is a great error ; for all the world may at all times bear this exercise, if it is properly and sagely managed : but, in order that this may be the case, it is necessary that the medical man should have a perfect knowledge of horses, and of riding, that he may make a wise application of this remedy to the varying cases of his patients.

Dr. Fitz-Patrick has treated in a special manner on this chasm in medical science, in a pamphlet which he has lately published, entitled “ Considerations on Horse-exercise, employed as an hygiean and therapeutic Agent.”

In this little work Dr. F. has treated of the different paces of the English, Norman, Hanoverian, Limourin, Andalousian, and Arabian horse, and the difficulties that are continually met with,

in the application of this salutary exercise to the state of the sick. This chasm has remained unfilled, we say, because, to the present moment, many practitioners have not prescribed this exercise so much as they otherwise would have done, from the fear of increasing the malady and danger of their patients, by sending them into close and ill-ventilated riding-schools, or where the persons charged with the superintendence of the school, not comprehending the normal condition of those who are intrusted to their care, render that, which ought to have been salutary to the individual, annoying to him, or injurious to his health, or, at least, preventing the perfect re-establishment of his health.

At the present day, when the healing art is carried to its very apogee, an establishment is much wanted which will offer these advantages. The riding-school for the recovery and establishment of health which Dr. Fitz-Patrick has added to his *Maison de Santé*, at No. 70, Rue de Chaillot, promises all the advantages which we have mentioned, without any of the inconveniences; for the physician himself will preside over the whole of the horse-exercise of those who may confide themselves to his care and experience in this new method of healing disease.

This establishment also offers to amateurs the means of exercising their horses in every way, the hippodrome being disposed for trotting-matches, or pony-races, or leaps at the barriers or the ditch.

Stabling for thirty horses permits him to receive at livery the horses of those who wish to send them there, and where they may be daily exercised in the school, either by the owner or by proper attendants; and they will also find there the greatest facilities for the sale or exchange of horses.

### *Prospectus.*

*Maison de Santé et Manège Hygyénique, for the use of Convalescents of both Sexes, and for the Treatment and Cure of chronic Diseases; Rue de Chaillot, 70, aux Champs-Élysées.*

Dr. Fitz-Patrick has the honour to inform the public, that, under the name of *Manège Hygyénique*, he has added to his *Maison de Santé* already advantageously known—not only on account of its situation, but the extent of its gardens and the purity of its air, and more especially from the personal care exercised by the superintendent, and the peculiar management adopted in that establishment—a means of treating and of curing chronic affections and diseases, and completely establishing the health of the convalescents, by means of horse-exercise, scientifically adopted.

For this purpose he has selected horses of the character, and with the paces, that will best accomplish the desired end.

As a physician and a horseman, Dr. Fitz-Patrick proposes himself to direct his patients to that kind of treatment which he may deem to be necessary. By this means they will not have to fear the inconveniences that would result from the directions and the management of men who are strangers to medical science.

The riding school, which is 300 metres in circumference—the largest that anywhere exists—offers to amateurs the advantage of exercising and training their horses in every possible way.

Persons desirous of visiting the establishment, may address the director at any time in the day; but they who wish medically to consult him, must apply between two and five o'clock.

Tickets of admission for amateurs, with their horses, from 1 fr. 50 cent. to 2 fr. or 30 fr. per month.

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IMPORTATION OF CATTLE, &c. INTO LIVERPOOL, AND  
 LIKEWISE THE NUMBER IMPORTED COASTWISE, FROM  
 JAN. 1 TO JUNE 30, 1837, WITH THEIR AVERAGE VALUE.

	£	s.	d.	£	s.	d.
21,767 Head black cattle, at..	16	0	0	348,272	0	0
470 Calves .....	2	0	0	940	0	0
38,320 Sheep .....	1	15	0	66,902	5	0
10,010 Lambs .....	0	15	0	7,507	10	0
221,532 Pigs .....	2	0	0	443,064	0	0
950 Horses .....	26	0	0	24,700	0	0
114 Mules .....	8	0	0	912	0	0
				<hr/>		
				892,297	15	0
				<hr/>		
Coastwise	£	s.	d.	£	s.	d.
2,456 Black cattle, at.....	16	0	0	38,296	0	0
119 Calves .....	2	0	0	238	0	0
28,387 Sheep .....	1	15	0	49,676	15	0
114 Lambs .....	0	15	0	85	10	0
3,494 Pigs .....	2	0	0	6,988	0	0
45 Horses .....	26	0	0	1,170	0	0
				<hr/>		
				96,454	5	0
				<hr/>		
Total				988,752	0	0
				<hr/>		

# THE VETERINARIAN.

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## ANIMAL PATHOLOGY.

By Mr. YOUATT.

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### LECTURE XV.

#### *Rabies in the Dog.—Symptoms concluded.*

IN my first lecture on the symptoms of rabies in the dog, I spoke of his sullenness, fidgettiness, and clouded, suspicious countenance—the presentiment that he seemed to have of some dreadful evil that was about to befall him, and the steadfast gaze with which he regarded one and another of the family, as if he would read their very thoughts. A leading member of one of the hunts in the southern extremity of Ireland, and one of the foremost in these sports which “*nobile venandi nomen meruere*,” has favoured me with a confirmation of this, so graphic that I will give it you verbatim:—“Permit me to offer you an account of what is, among hounds, one of the earliest if not the very first symptom of this fearful disease, namely a nervous dread or shiness of their companions. I may, perhaps, make myself more intelligible by stating a case.

“A bitch, brought into kennel from the walk where she was reared, appeared (as many puppies do) very shy of the pack at first; she, however, got over it in about a fortnight, and became as bold as any of the other hounds.

“One day, when the pack were going to be fed, instead of coming up to the door of the feeding room with the others, as usual, she slunk away, and appeared frightened at the noise they made: but when they had been fed, she ate *by herself* with as good an appetite as any dog, and when there was nothing going on among the hounds to arouse her attention, appeared in perfect health. The next day these symptoms were aggravated. She was then taken out of the kennel, and for three or four days seemed quite well. The huntsman was going to put her back,

when the anxious gaze at an imaginary object was observed in her—this was followed by the fiery eye, and the rabid howl before the bitch died, which she did in two or three more days. At different periods, this nervous dread of their own species (if I may so express it) having been observed among the hounds, the dog so affected, on being removed and kept separate, invariably died rabid, or was destroyed when the symptoms of the disease were not to be mistaken.

“I should, perhaps, farther state, that, during twenty years, the period that the pack of fox-hounds (from whose kennel I have taken my information) have been kept, a dog never went mad among them, which I solely attribute to instantly removing any dog affected as I have described.”

I regard this as a very important communication, and return the gallant writer my own poor thanks, and those of my veterinary and his sporting brethren. I proceed, however, to that which constitutes the main interest and value of our present inquiry.

*The Alteration of Temper.*—It is one of the characters of this disease, that in its very earliest stage it is accompanied by some degree of disorder of the intellectual faculties. Three or four days before there is any other recognizable symptom of rabies, there is evident derangement of mind. The hound that had lately come in from the walk had strange apprehension of danger from its companions. The more domesticated dog, momentarily at least, entertains strong, although unfounded, suspicion of his master. The gaze of affection with which at other times he regards those to whom he belongs will not fail to make its due impression; but the intense searching delirious look which he now turns on those around him, will never be forgotten by the person on whom it has fallen. The fact is, the state of the organic nervous system is already deranged, the circulation of the brain is affected, and, in consequence of that, both the intellect and the moral feeling are disturbed. The animal begins to see many an object that has no real existence. Thus he follows the flight of various imaginary things that he fancies are floating around. He gazes on some with pleasure. I have more than once seen the brightening countenance and the wagging tail as some friendly vision has passed before him; but much oftener has the countenance indicated the mingled dislike and fear with which the intruder was regarded; and as soon as the phantom came within the proper distance, it was attempted to be seized on with true rabid violence. The nails on the partitions of the stable have been darted at with a force which threatened the destruction of the animal.

*The peculiar Struggle in the Mind of the Dog.*—In proportion as more blood is determined to the brain—in proportion as the cerebral circulation is disordered, the first feeling of impending evil is strengthened, and, with that, the desire to repel or revenge the injury; yet the previous habits of obedience and the feeling of affection are not at once discarded. A spaniel belonging to Mr. Haslep frequently snapped in the morning, seemingly in play, at the feet of several persons. In the evening he bit his master, his master's friend, and another dog: the old habits of obedience then returned. His master, most strangely, did not suspect the truth, and the dog quietly followed him to my house on the following day, and was perfectly docile, and eager to be caressed.

A dog belonging to Mr. Russell was incessantly employed in hunting flies during the greater part of a certain day. In the evening he seized his mistress's hand and mumbled it, pretending to bite. He then did so with her foot several times. On the following morning one of the maid-servants could hardly keep him from her feet. He took his food eagerly, but dropped it from his mouth. In the afternoon he bit the gardener, and then fell on the gardener's cat, and nearly worried her to death. On the following morning he was employed with strange diligence in tearing his bed and kennel to pieces. His eyes were fierce, and he flew furiously at a stick with which he was threatened.

Another dog, bitten by one that was decidedly rabid, in his turn exhibited this fearful disease. Two other dogs were chained within his sight, and his efforts to get at them were savagely furious; but at the appearance of his master he became as quiet as a lamb. He was brought without difficulty to my house in a hackney coach; he submitted to the muzzle, and, afterwards, to a copious bleeding, which I, at the entreaty of the master, was foolish enough to undertake. The delusion was confined entirely to his companions. They, in his mind, were the authors of the malady under which he suffered, and on them he was eager to be revenged.

A lady would nurse her dog after he became rabid, and when he was dangerous to every body but herself, and even to herself, from the saliva which he threw about. At length he darted at every servant that entered the room, until, a footman keeping the brute at bay with the poker, the husband of the lady dragged her from the room. The noise which he made was terrific; and he almost gnawed his way through the door. At midnight his violence nearly ceased, and the door was partially opened. He was seen staggering and falling about, with every limb violently agitated—he could not hold his head still for a moment. At the

entreaty of the lady, a servant ventured in to make a kind of bed for him. He suddenly darted at him, and dropped and died.

I will detain you with but one illustration more of the peculiarity of this delirium. A terrier, ten years old, had been ill, and refused all food for three days. On the fourth day, he snapped at a cat of which he had been unusually fond, and likewise bit three dogs. I was requested to see him. I found him loose in the kitchen, and at first refused to go in; but after observing him for a minute or two, I thought that I might venture. He had a peculiarly wild and eager look. He turned sharply round at the least noise. He often watched the flight of some imaginary object, and pursued with the utmost fury every fly that he saw. He eagerly sniffed about the room, and he examined my legs with an eagerness that made me absolutely tremble. He had made it up with the cat, and when he was not otherwise employed, he was eagerly licking her and the kittens. In the excess or derangement of his fondness, he fairly rolled them from one end of the kitchen to the other. I requested that he might be immediately destroyed.

*Occasionally no Disposition to bite.*—It is not every dog who, even in the most aggravated state of the disease, shews any disposition to bite. The finest and the noblest Newfoundland dog that I ever saw became rabid. He was continually watching imaginary objects; but he did not snap at them. There was no howl—no disposition to bite—he offered himself to be caressed, and he was not satisfied except he was shaken by the paw. On the second day that I saw him, he watched every passing object with peculiar anxiety, and followed with deep attention the motions of a horse, his old acquaintance; but he made no effort to escape, nor evinced any disposition to do mischief. I went to him, and patted him and coaxed him, and he told me, as plainly as looks and actions and a somewhat deepened whine could express it, how much he was gratified. I saw him on the third day. He was evidently dying—he could not crawl even to the door of his kennel; but he did push forward his paw, some inch or two, and as I shook it, I felt the tetanic muscular action which accompanies the departure of life.

In my own hospital I have had dogs that did not exhibit the slightest disposition to harm living beings. One spaniel I particularly recollect, who died as he attempted to crawl towards the door of his division of the hospital when I called him by his name.

The poor fellow whom I described in my last lecture as dosed—cruelly, perhaps—with the scutellaria, crushed the butter-boat,

and indented the spoon, but endeavoured not to bite me. On the evening of the night on which he died, and when he was unable to get up, he faintly wagged his tail as I approached him, and, after many an effort, offered me his paw.

The dog on which the power of the guaco was tried, and another that was submitted by Mr. Mayo and myself to some justifiable but severe experiments, attempted not once to bite.

*Ferocity of some Dogs.*—On the other hand, there are dogs whose ferocity knows no bounds. If they are threatened with a stick, they fly at it and seize it, and furiously shake it. They are incessantly employed in darting to the end of their chain, and attempting to crush it with their teeth, and tearing to pieces their kennel, or the wood-work within their reach. They are perfectly regardless of pain. The canine teeth—the incisor teeth are torn away, yet, unwearied and insensible to suffering, they continue their efforts to escape. A dog was chained near a kitchen fire; he was incessant in his endeavours to escape, and when he found that he could not effect it, he seized, in his impotent rage, the burning coals as they fell, and crushed them with his teeth.

*The Mad Dog abroad.*—And when by chance he has escaped, he roams over the country, bent on the work of destruction. At the outset of his career he attacks quadruped and biped. He seeks the village street, or the more crowded one of the town, and he suffers not a dog to escape him—the horse is his frequent prey, and the human being is not always safe from his attack. A rabid dog, running down Park Lane in 1825, bit no fewer than five horses, and fully as many dogs. He was seen to steal treacherously upon some of his victims, and inflict the fatal wound. When the mad dog in the country has made the neighbourhood of the town too hot to hold him, he seeks the more distant pasturage. He gets among the sheep, and more than forty have been fatally inoculated in one night. He attacks a herd of cows, and five-and-twenty of them have fallen victims to this destroyer. His progress can scarcely be arrested. In July 1813, a mad-dog broke into the menagerie of the Duchess of York, at Oatlands; and although the palisades which divided the different compartments of the menagerie were full six feet in height, and difficult or almost impossible to climb, he was found asleep in one of them, and it was clearly ascertained that he had bitten at least ten of the animals.

*The Mad Dog tired.*—At length he becomes completely exhausted, and he thinks of recruiting himself by sleep, or returning homeward; and he slowly trots or *reels* along the road, with his tail depressed, seemingly half-unconscious of surrounding

objects, and suffering many a fair prey to escape him. The open mouth—the protruded and blackened tongue—the half-closed eye, and the rolling gait will at once characterize him. He, probably, is far distant from his home—then he seeks some other shelter. A favourite one is the ale-house by the road side, into which he skulks, and, creeping under the settle or table, he rolls himself up, and sleeps a good twelve hours or more. It is dangerous to disturb his slumbers; for with his muscular strength his desire to do mischief returns, and the slightest touch or attempt to caress him is repaid by a fatal wound. Let this be a caution to you never to meddle with a sleeping dog in a way-side house; and, indeed, never to meddle with him when asleep anywhere.

If a shelter like this does not offer itself, and he is still far from home, he seeks some barn. Not many years since a hay-maker sought shelter for the night in a barn in the neighbourhood of Harrow. He placed his pitchfork in a corner, and stretching himself on some straw, he composed himself to sleep. He was awakened in the night by a heavy weight pressing on his chest. He half-unconsciously turned to liberate himself from it, when he heard a fearful growl, and was immediately seized by the throat by some powerful animal. It was a dog of the large bull-breed, that had sought the same refuge, and had selected the man's bosom for his resting-place. He struggled to throw off the assailant, but he was only seized and lacerated in a different part. It was pitch dark—and in the confusion of the struggle he could no longer recollect the direction in which he had placed his fork. The beast, with all the ferocity of his breed, continued to worry him. He was wounded in every part—he was worn out by the loss of blood and the extremity of his agony, when he fortunately felt the longed-for weapon. He seized it: with his little remaining strength he aimed it at the heart of his antagonist, and exulted when he felt him quit his hold, and drop dead by his side. Early in the morning he found his way to a surgeon. He and the brute from which he had escaped were forwarded to the Middlesex Hospital. The carcass of the dog was immediately sent to me. It was that of a rabid dog. The poor fellow's wounds were properly treated, and in a few weeks he was sent home; but a very little time passed ere he sickened, and died hydrophobous.

*The ferocious and dumb Madness.*—I have already hinted not only at the indisposition but the inability of some rabid dogs to bite. There is in some cases at the early period of the disease, in others beginning to appear when the strength of the dog is nearly worn away, a peculiar paralysis of the muscles of the

tongue and the jaws. The mouth is partially open, and the tongue protruding. In some cases the dog is able to close his mouth by a sudden and violent effort, and is as ferocious and as dangerous as the one the muscles of whose face are unaffected. He is, perhaps, more to be dreaded, for his appearance of harmlessness may lead those who are about him to expose themselves to unnecessary danger. At other times the palsy is complete, and the animal is unable to close his mouth or retract his tongue. Yet even this is uncertain and deceitful—it wears away as the desire to effect mischief increases—it is that which the dog can altogether shake off under the influence of strong excitement—or it gradually steals over the animal when the powers of nature are nearly exhausted. The ferocious and dumb madness are not two diseases—they are varieties of the same disease,—they are only different stages of it. The pug oftenest exhibits the dumb variety, and it is seldomest apparent in the half-bred fighting terrier.

*Caution as to this Distinction.*—The circumstances which accompany this partial paralysis are generally sufficiently characteristic :—The tongue not only protrudes, but it is discoloured—it is leaden-coloured, or almost black. The countenance of the dog may exhibit considerable ferocity, but it is more expressive of deep distress, and, from the impossibility of using the tongue in lapping, the poor animal soon begins to labour under the most singular and tormenting thirst. He hangs over the water for many successive minutes, vainly attempting to raise it to the posterior part of his mouth—he plunges his whole face into it—he returns to the task many times in an hour, but the fluid is not diminished, and a thick spume covering the surface of the water is the only result of all his efforts. I have already alluded to this, and I return to it for the purpose of cautioning you to be a little on your guard against deception, even here. Dogs were designed to feed on the refuse of human aliment: bones constitute a frequent and a considerable portion of their nutriment. In the eagerness with which these bones are crushed, spiculæ or large pieces of them become wedged between the molar teeth, and form an inseparable obstacle to the closing of the mouth. The tongue partially protrudes; there is a constant discharge of saliva from the mouth, far greater than when the true paralysis exists—the dog is continually fighting at the corners of his mouth, and the countenance is expressive of intense anxiety, although not of quite the same irritable character as in rabies.

*Illustrative Case.*—I was requested to meet a medical gentleman in consultation respecting a supposed case of rabies. There

was protrusion and discolouration of the tongue, and fighting at the corners of the mouth, and intense anxiety of countenance. The dog had been in this state twenty-four hours, and it had come suddenly upon him. I had met this gentleman before, and we had a little differed in opinion. He was waiting when I arrived. "Well, sir," said he, "we shall not fall out at this consultation. Here is a case of dumb madness, plain enough; but as the animal has been permitted to use his tongue too frequently about the hands and face of the owner and his family, I wished to be supported by your opinion before I resort to the caustic, of which, I fear, that I must make some liberal use."

I freely confess that it was a case in which I should probably have been deceived had it been the first dog that I had seen with dumb madness; but one or two awkward blunders had taught me the necessity of caution; and after I had a little tested the ferocity or manageableness of the supposed animal, I was now accustomed to ascertain the nature of the apparent paralysis of the lower jaw. I did so here, but secretly, and seemingly merely raising his head to look at him, and I found that his jaw was fixed. What was I to do with my medical friend? I requested the master to allow us to consult a little about the matter. He withdrew. I shewed the surgeon the true nature of the paralysis; and added, "You have been talking a little too freely about the rabid condition of the animal. We must agree that it is a peculiar case, perhaps of no danger; that I wish to have the dog home with me; and that we even think there is a possibility of all the present symptoms disappearing under proper treatment, which can take place only at my hospital." The owner of the dog caught immediately at this unexpected reprieve—the animal was sent home with me—the forceps soon set all right with him—a good account was daily given of him, for of course he could not be seen:—in ten days he was sent home, perfectly well, and I acquired a valuable and honoured friend. He is now departed. He suffered not in the estimation of his employers, who exulted too much in the result of the case to render it likely that they would ever suspect the real nature of it; and I do not believe that any human being was aware of the pardonable manœuvre that was resorted to.

*The different Symptoms in different Dogs.*—I have related to you many anecdotes of the different degrees of ferocity attending this disease in different dogs. How do I account for this? I might give a very general and yet an unanswerable reply by another question. How am I to account for the greater degree of determination of blood to the brain in one case than in another? How am I to measure the variation in rapidity of circula-

tion—in the susceptibility of the sensorial organs, or the increase or interruption of sensorial power? I can well imagine that delirium, or disorder of the mind, must necessarily accompany that change of organic nervous power—that determination of increased stimulus—that disposition to be influenced and affected by it, which are the characteristics of rabies. But, apart from this, I have a guide which can scarcely deceive me—a different predisposition set up by the artificial and different education which man has given to these animals. The illusions—the incoherence of thought—the character of the mental agitation, to a certain degree, are in unison with the previous mental habits and prevailing disposition of the patient. The education which is given to the bull-dog and the terrier, in those nurseries of crime the dog-pits, prepare them for that extent of mischief which in their rabid hallucinations they so frequently effect. It was to one of the larger species of these dogs that the poor fellow at Harrow fell a victim. A butcher at Whitechapel, had a dog that was the champion of that district. He became rabid. After many acts of ferocity, he sprung on his master, who was endeavouring to restrain him; and he fastened on him, and only relaxed his gripe in the moment of death. A large bull terrier came into the garden of a gentleman on Clapham Common. His eyes were said to be wild and red, and starting from its head. In endeavouring to attack the yard-dog, he ran furiously against the rails, as if he were almost blind. In a second effort he was more successful, and he fastened on the shoulder of the other, and there he hung until his brains were beaten out. I once attended a horse on whose muzzle a dog of the same species had fastened, and there he hung until he was dispatched with the stable-fork.

That detestable and now diminished breed of dogs, the blood-hound—the ravages which he has committed in a state of rabies are scarcely credible. In Saint Domingo, where, as in other parts of the West Indies, they were sometimes used for demoniacal purposes, one of these brutes became rabid. Obeying the horrible impulse which had been systematically impressed upon him, he was satisfied only with human victims. He had appeared in a certain district, and several of the negro-children, and two of the mothers who would have defended them, had been bitten. He had escaped to the mountains, and his retreat could not be discovered. The whole population of that part of the island was alarmed, for they doubted not that, when his strength had been recruited by repose, he would re-appear. Most assuredly he did, at the close of the day, among a group of cottages belonging to some of the slaves. A veterinary surgeon, who was afterwards in the island, thus speaks of him:—“His

eyes glared like fire—a bloody foam dropped from his mouth—he attacked every insensible object which stood in his way, and at his incessant howl every heart quailed. Each negro ran to catch up his children, and to seek safety in flight; and no one thought of resisting the foe, until an old negro exclaimed, ‘It is better that one should perish!’ and, armed with a cutlass, he presented himself before the brute. The monster sprung on him in an instant, and by his immense weight, and his strength, quadrupled by the excitation of the disease, bore him to the ground, and then he tore him in every part of his exposed and naked frame. The slave contrived, at length, to liberate himself, and with one fortunate blow pierced the bloodhound to the heart. He was covered with wounds, and in his own mind, and that of his grateful companions, was doomed to a dreadful death. The remedy on which greatest confidence was placed in that country was applied. Every wound was filled with gunpowder, which was set fire to, and a course of mercurial medicine was commenced. Several who had been bitten by the dog died in various parts of the neighbourhood; but this brave fellow was spared:” and, five-and-twenty years afterwards, the veterinary surgeon from whom I quote, saw him on the same plantation, entrusted with the management of the whole of it, and almost idolized by every negro on it.

In the country, the cur and the lurcher, almost constantly employed, when well, in scenes of petty cruelty and mischief, are, when rabid, the chief propagators of this disease. In large towns the fighting dogs are most to be feared. The noble Newfoundland dog, whose education makes him useful, gentle, and attached, is often harmless from the commencement to the termination of the malady. The pug, with his peculiar individual regard, is seldom much to be feared—nor the larger spaniel, who is not likely to be trained to much ferocity: but the little spaniel—the ladies’ lap-dog—whose attachment is so artificially and with so much labour concentrated on his mistress, although possibly harmless to her, so far as the actual bite is concerned, is inconceivably dangerous to every other person in the house. Almost the whole depends on the previous disposition and habits of the animal. This is an important lesson, and too many there are who need for it to be deeply impressed upon them.

*The Influence of habitual Temper continued.*—It is the same with the human being. Dr. Elliotson gives an account of one of his patients, whose education had been neglected, and whose temper had always been bad, who unfortunately was bitten by a rabid dog, and became hydrophobous. He would throw himself into the most furious passion, collect the saliva in his hands,

and discharge it in the face of the attendant—he would spit and throw his saliva on every one around him, and once he suddenly sprang out of bed, seized the large syringe, which was filled with an injection of turpentine, and advanced against those that were present, spitting, and discharging its contents at them. They escaped, by the door, and he, rushing after them, closed and locked it. Before they could break it open, which they instantly attempted, he had tried the window, which was secure, and had climbed upon the drawers. He then returned to open the door; but before he could accomplish it, he fell insensible. Once he threatened the doctor dreadfully—attempted to get out of bed for the purpose of attacking him—tossed himself about and gnashed his teeth, his countenance bearing such an impression of rage and despair, as to remind his attendants of the pictures of persons tormented in the infernal regions. Contrast this horrible scene with the following ones. See the Duke of Richmond sitting calmly down to arrange some private affairs, and writing the most affectionate letters to those whom he loved. See Miss M'Clive calling around her the different members of her family,—addressing to some a word or two of admonition that would, under such circumstances, have their due effect; and many a word of kindness to all that would never be forgotten, and actually spending her last breath in imploring a blessing on them.

But I have done; I pretend not to explain all the wanderings and delusions of a delirious mind; but I have endeavoured, in the last few observations, to trace a connexion—a stronger one than most imagine—between these delusions and the previous habits of the sufferer. My object in this will be hereafter apparent.

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## ON HOCK LAMENESS, IN REPLY TO PROFESSOR DICK.

*By Mr. W. C. SPOONER, Southampton.*

[The accompanying engraving will convey some idea of the appearance of the pulley-form portion of the astragalus in the horse whose case was related by Mr. W. C. Spooner in *THE VETERINARIAN* for July, and animadverted on by Professor Dick, in the August number of that Journal. Deep in the groove of the pulley is evident discolouration and depression—there is loss of substance—there is apparent ulceration of the cartilage. On the corresponding central projection of the articular surface of the head of the tibia there was a deeper stain, and a considerably deeper depression. The surface was rough, and

the edges were irregular—the cartilage was abraded, and the fibrous structure of the bone appeared beneath. I enter not into the discussion—it would be improper for me *at present* to do so. I am merely, for the information of the reader, stating the facts of the case.—Y.]

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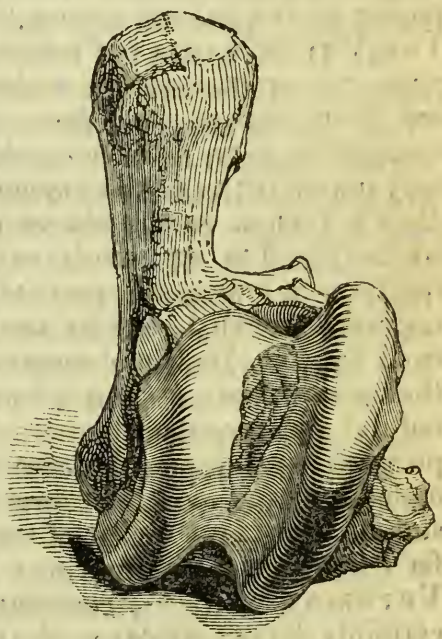
I WAS pleased to find, on looking through the table of contents of the August number of THE VETERINARIAN, that the subject of hock-lameness had at length acquired some notice, and the notice, more particularly, of so able a writer as Professor Dick; and although on perusing the paper of that gentleman my pleasure was somewhat damped by the general tone of his remarks, and the unqualified contradictions they contained, yet, on the whole, I felt satisfaction, as I was convinced that benefit must be derived from the discussion of so important a subject. I must first, however, endeavour to clear myself from the charge of egotism that appears to be insinuated at the commencement of Mr. Dick's paper. He says, that I have accused veterinary surgeons generally, because they have not before noticed my papers on the subject. Now, if any one will refer to my paper in THE VETERINARIAN of last July, he will find that I merely express my surprise that the subject of obscure hock-lameness had not been noticed by others. The difference between the two statements may be trivial as to the matter of the complaint, but very important as to the manner in which it is made. From Mr. Dick's version one would suppose that I felt *myself* neglected, whilst all that my words will imply is, that I thought the *subject* was unduly disregarded. And, certainly, if this was my impression when I sent my last paper, it is still further strengthened by Mr. Dick's observations, wherein he positively asserts that what I have described as a diseased alteration is simply the natural and necessary construction of the joint. I, say my impression was still further increased; because, if such were his opinions, it is strange indeed that he should have allowed my statements to have remained unopposed for upwards of six years; for I find that my first paper on the subject is contained in THE VETERINARIAN of December 1830, when Mr. Dick's name certainly did not appear as the nominal editor of the Journal. To this date I must now go back, in order to call to mind the manner in which my attention was first directed to the subject.

I had a case of lameness of one of the hind legs, attended with a slight degree of heat, and tegumental swelling about the hock. The horse was bled from the thigh, and, after the heat was removed by cooling treatment, the hock was blistered, and the lameness removed. He was put to work, and again became lame, for which he was once more subjected to treatment, and a seton was

inserted over the joint with decided benefit. A renewal of work, however, brought on a return of the lameness : he was then fired, and rested for some time, and was afterwards put to agricultural work, where, some months afterwards, he died suddenly of apoplexy, affording me an opportunity of examining the leg. No disease could to be found any where but in the hock joint : there was no spavin, and on separating all the bones of the hock, no disease could be discovered, except in the upper articulation, where the tibia presented the appearance of being worn down, as it were, by friction about the centre of its middle protuberance—the cartilage being absorbed—the bone abraded, and the synovial membrane round it red with inflammation. This was my first case ; and can it be wondered that I came to the conclusion, that in this case the appearance I have pointed out was the cause of the lameness ? And yet now, at the eleventh hour, after the lapse of nearly seven years, I am told that I discovered a mare's nest—that these appearances, forsooth, were nothing more than the natural and necessary construction of the joint !

What has been the nature of my succeeding cases ? Have I gone to the knacker's or the kennel and searched for hocks supposed to be diseased, and then concluded, as a matter of course, that the horses to which they belonged must have been lame ? No ! I have related no case, I possess no specimen of the disease, whose previous history I have been unacquainted with ; and in each case there has been previous lameness, with no visible lesion (unless I have pointed out the contrary) in any other part of the leg.

Mr. Dick, in his third paragraph, says, "it must not be supposed that I am contending that friction, or even ulceration, does not take place in the articulation formed by the tibia and astragalus—quite the reverse." It is fortunate that Mr. Dick gives us this caution ; for from his other remarks we should certainly have supposed that he was of opinion that ulceration never occurred in this joint ; and, indeed, he afterwards adds, that he is not satisfied that he has "seen a case where ulceration



could be said to have taken place in this joint unaccompanied by open joint or some external injury:" this is, certainly, rather contradictory.

Mr. Dick goes on to say, "there is, perhaps, nothing more common than to observe the effects of friction on the articulating surfaces of these bones; but then it is quite different from what Mr. Spooner points out." It is, certainly, somewhat strange, if this friction is so *very common*, that it has never been pointed out by any of our veterinary writers or lecturers; and it is equally singular that the first person who referred to this articulation as the seat of disease should have mistaken a healthy structure for a diseased one.

Mr. Dick remarks, that the symptoms of this friction prior to death are also "quite the reverse" of what Mr. Spooner points out. Now, as Mr. D. does not tell us the symptoms he has found which are so opposite to mine, we can only gather them by taking the "reverse" of those I have pointed out. I have said that there is a lameness behind, which lameness generally diminishes after exercise. Mr. Dick's symptoms we are to understand are "quite the reverse."

Mr. D. says, that if I reflect for a moment I shall see that the situation of the cavities I describe renders friction impossible. Now, let us suppose, for a moment, that all hocks possessed certain irregular cavities on the ridge of the tibia. What, then, are the most likely parts to suffer from friction? Why, I should say the edges or borders of these cavities; and thus, even if they existed in all hocks, the fact would not militate against my theory; for abrasion may take place on the edges of these cavities, and the synovial membrane may be bruised, the cartilage absorbed, and the same appearances presented as we find in the fore feet in cases of navicular lameness, and which we there call ulceration.

But let us suppose the case of a healthy hock, in which these cavities do not exist. A bruise takes place at the part I have pointed out—the centre of the joint, the fulcrum of motion; inflammation ensues from this bruise, and lameness is produced: the horse, however, continues working, and the lameness increases; the cartilage of the bone becomes absorbed, and, perhaps, the bone itself. The horse is now regularly treated, and rested for a long time, and he gets apparently well. What is the cause of this amendment? Why, the inflammation has subsided in the joint, and the injured part has, perhaps, been removed, by absorption, from contact and friction, which, indeed, may be considered as one of Nature's efforts in protecting parts from injury. The horse, however, is again put to hard

work, and the lameness returns. What takes place in the hock? The synovial membrane on the borders of the cavity formed by the previous absorption becomes bruised and inflamed, ulceration again commences, and perhaps nearly the whole of the ridge of the tibia becomes denuded of its cartilage and synovial membrane. Now, I would ask, is there any thing incorrect in the external symptoms I have given of these obscure cases? and is there any thing irrational in the theory on which I have endeavoured to explain them? It will be seen that I do not, by any means, contend that the degree of lameness manifested by the horse is in proportion to the extent of absorption or ulceration existing in the joint; far from it. With an increase of absorption there may be a diminution of lameness, in consequence of the subsiding of the inflammation which, indeed, is the real cause of the pain that produces the lameness. Thus, we may examine a hock with very considerable abrasion of surface that had been attended by a much less degree of lameness than that of another hock presenting but a comparatively small abraded spot; but the latter would have been connected with a much greater degree of inflammation.

Mr. Dick seems to dispute the theory of pathologists—that when a bone exposed to great friction presents a polished appearance, such appearance is occasioned by the deposition of a peculiar secretion to resist this friction. Mr. D. explains it mechanically, and says “it is simply the effect of friction, as may be shewn by rubbing two bones against each other, when the same effect is produced.” Now, with all due deference to the authority of Mr. Dick, it appears to me that his explanation of the matter is not consistent with sound views of physiology in thus comparing together dead substances with living ones. The polishing the surfaces of wood or dead bone by friction is produced by rubbing down the irregularities and condensing the surface by pressure; but if the living bones were exposed to the same degree of friction, irritation would be produced, the periosteum would be inflamed, and perhaps a sloughing of the bone would occur, as often takes place in the under jaw, when the bars are too severely pressed by the *bit*, or in other bones when a severe contusion has been received. A dead bone remains the same substance for hundreds of years; but the living bone is perpetually changing its material; it becomes harder or softer at different periods of life; and is closely adapted to the wants of the animal. Whatever alteration, therefore, takes place in its substance arises from the absorption of one portion of its composition and the deposition of another, and not from the mechanical effects of friction, as in a dead substance. The

cartilage on the surface of the bone, likewise, is not worn down by friction, like the axletree of a wheel, as Mr. Dick's observations would imply; but, in consequence of continued pressure, an absorption takes place. The loss of substance occurs from the action of the absorbents, and not from being ground down like corn in a mill.

With regard to bog-spavins, every one knows—at least every veterinary surgeon, if he knows any thing at all—that not one in twenty occasions lameness. I am, therefore, hardly prepared to acknowledge, that every case is attended with friction, or rather the effects of friction, within the cavity of the joint; and if, as Mr. Dick asserts, bog-spavins are commonly the effect of injury done to the ligaments outside of the joint, there is still less reason for supposing that friction must necessarily and invariably be produced within the cavity.

I would not by any means assert that there are no instances of small excavations occurring in the centre of the hock joint in a state of health; but I would simply observe, that, in spite of their invariable and essential existence, for which Mr. D. contends, I have at present some healthy hocks before me which discover no such appearances, either externally or internally.

As my paper has extended much beyond its intended limits, I must now leave the subject to the consideration and observation of the profession; but in doing so must observe, that my opinion remains entirely unaltered by Mr. Dick's animadversions. I am still convinced that the rough and irregular abrasions which I have pointed out were produced by disease, and were the causes of lameness in the cases I have recorded.

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## ON HOCK LAMENESS.

*By Mr. PRITCHARD, of Wolverhampton.*

ALWAYS awake to any thing new connected with the veterinary art, I was forcibly attracted, in the month of December 1830, by Mr. W. C. Spooner's paper on Hock Lameness, wherein he cited some four cases of disease, situated between the tibia and astragalus; and although I could not subscribe to his pathological views of the subject, still I thanked him for his information, and ranked his cases as new in veterinary nosology. Mr. Spooner appeared at the time desirous that the profession should make some observations on the subject of his paper; however, all continued silent up to 1837, when Mr. Spooner's patience, it would seem, became exhausted, and he again brings the subject before

the veterinary public, having in the meantime fully assured himself that, in 99 cases out of 100, obscure lameness of the hock had its seat between the tibia and astragalus. I should not have made any observation on his papers, but Mr. S. calls on the profession to acknowledge or deny the existence of a disease which sportsmen and amateurs are now fully aware of; and he fearing veterinary surgeons may appear ignorant of the fact to their disadvantage, I venture to offer a few remarks on the subject.

The honour of interesting discoveries in the science to which we belong is highly gratifying to all who can lay claim to them, nor shall any be more forward than myself in subscribing to the palm; but we must not be too hasty in drawing positive conclusions, lest we mislead our friends and retard our professional improvement. The several cases that have occurred in Mr. Spooner's practice, of a diseased condition of the joint formed by the tibia and astragalus, are only proofs of the liability of the membrane and articular cartilage of that joint to similar lesions with those structures in other articulations; but my own experience tells me that he has much over-rated the frequency of its occurrence. A mere mechanic may pass over the structure of the cuneiform bones to that of the astragalus and tibia, and in his opinion have more plausible reasons to conclude, from the extent of movement between them, that they were the most likely to be injured; but I should not follow him, for I am well aware that concussion is a greater source of injury to the internal surfaces of joints, than attrition: the greater the extent and freedom of action in an articulation, the less must be the concussion.

I grant that the most extensive action in the hock is between the tibia and astragalus; but there is an ample synovial secretion by which contact and consequent friction are efficiently prevented.

Viewing the cuneiform articulations, I observe limited movement and liability to concussion and contusion, and this commonly aided and facilitated by the improper adjustment of the tread by shoeing, the jar and ligamentous stress being more than they can endure in their normal state.

In February 1830, Mr. W. J. Goodwin produced a paper which was read at the then existing Veterinary Society, in which he pointed out a species of hock lameness previously unnoticed by the profession. The readers of *THE VETERINARIAN* will recollect that it consisted of an inflammation, followed by ulceration, of the synovial membrane and articular cartilages of the cuneiform bones of the tarsus; and Mr. G. attributed the disease called bone-spavin to this particular lesion as its primary seat; and more especially obscure lameness of the hock, lameness evi-

dently of this joint, and without any apparent change of structure or external visible sign, except heat.

Mr. G. received the thanks of many of the Society, and he had mine, though in silence, because I could subscribe to the truth of his observations relative to the seat and nature of obscure hock-lameness, although I could afford to differ with him as to the manner by which these lesions are developed.

Professor Dick, in his reply to Mr. Spooner, thinks Mr. S. has fallen into error, and taken certain depressions in the articular surfaces for disease, which the Professor states to be no disease at all. For my own part, I do not doubt Mr. Spooner's ability to distinguish what is inflammation ulceration, or mortification, either in membrane, cartilage, or bone. That denusion and a morbid process of absorption (the latter of which is taken for ulceration, at least generally so called) do take place of the cartilage and its membrane in various parts of the articular surfaces of the joint between the tibia and astragalus occasionally, I can bear ample testimony; and I can most positively assure Professor D., that neither I nor Mr. S. are in error with respect to those sulci, or pits, being lesions of the cartilage, but that he himself errs in respect to them. However frequent they are seen, they are *true morbid lesions*. What am I to say of those hock-joints, or of others, that are perfectly free from these depressions?—That they are vices of structure? that they are deficient of excavations as retreats for synovia? No. Unless it is proved to me that an uneven surface is better adapted to receive weight, and endure wear and tear, than a perfectly smooth one, either in the mechanism of joints or door-hinges, there can be no necessity for such trifling reservoirs for the supply or husbanding of synovia. The secretion of it must be constant, and these cavities brimful, to anoint the parts as they pass, and thus to be of use, and this incessant pouring in of synovia renders them, in that view, absolutely unnecessary. Joints with true and beautifully smooth cartilaginous surfaces are sufficient evidence, without any other proof, of these said sulci being abnormal conditions of them.

It is only in regard of the nature of these depressions that I differ with Professor D. I agree with him, that ulceration of cartilage, the sequela of inflammation, is very rare—softening and morbid absorption being the more frequent consequence: cartilage must be converted into bone previous to ulceration with pus.

I agree also that these pits in the cartilage do not produce lameness, being out of the way of motion; and for this further reason, that they are endowed with little sensibility, they are concomitants of bursal disease of the joint. In bog-spavin, I have observed one part of this said articulation denuded of its

cartilage, and polished ; another part, with an open sulcus, and in other parts circumscribed, pale, opaque spots from absorption of the perichondrium, and which would, if the animal had lived, become sulci ; and in a specimen of these lesions now before me, the convex ridge of the tibia, and the corresponding furrow in the astragalus, possess a perfectly smooth covering of cartilage. Denusion and absorption of cartilage are occasionally found in the astragalus joint of those hocks possessing ossific spavin, consequent on the change of position of the joint ; and they sometimes take place in old subjects, as the only morbid condition of the hock, and unaccompanied by lameness.

I agree with Mr. Spooner in the occurrence of these lesions ; but I differ with him in considering them the common cause of obscure lameness of the tarsus. I do not deny the possibility of it being so incidentally ; but from my own experience I believe it comparatively rare. When the lameness is in this joint, it is far from being obscure ; it is the true hock-joint, and far the most extensive of the seven articulations of the tarsus : it possesses the greatest surface of synovial membrane, which, unlike the fibro-ligamentous and fibro-cartilaginous structures, readily inflames ; so that if inflammation occurs to the joint, if not primarily, it is secondarily and quickly, the seat of it : the increased secretion of synovia soon distends the capsular ligament, and the joint is enlarged.

In reference to the true seat of occult lameness of the hock, we shall not trace it to any definite spot exclusively ; it may be in one or any of the six remaining articulations. If any of their synovial membranes are inflamed either primarily or secondarily, their capsular ligaments will not allow of sufficient distention to be detected externally, and in this membrane will be found the true seat of that pain which is the cause of the occult lameness of the tarsus. Fibro-ligamentous and fibro-cartilaginous structures of joints rarely take on acute inflammation : it is generally more tedious in its progress, and so indistinct in phenomena as to be easily overlooked. They are structures much less vascular, much less sensitive, than the synovial membrane ; and we have daily proofs of ossification and even ankylosis taking place in the minor articulations of the tarsus unaccompanied by lameness. In cases of acute lameness, without any enlargement, I have found, on dissection, excavations in the head of the metatarsus, and also in the cuneiform resting upon it ; but I have considered it a secondary lesion ; and in this case the synovial membrane, highly inflamed, was evidently and unequivocally the seat of pain.

## CASE OF FRACTURE OF THE OSSA INNOMINATA, AND RUPTURE OF THE EMULGENT VESSELS.

*By Mr. JOSEPH CARLISLE, V.S., Wigton.*

ON the 24th of May last I was called to see a brood mare (the property of a gentleman about five miles distant from Wigton) that had fallen down a stone quarry, and was supposed by the owner to have broken her back. On my arrival I found the mare in a deplorable state; suffering most severely from internal and external bruises, and particularly of the muscles of the shoulders and hind quarters, accompanied by great inflammation of the external parts of the organs of generation: in fact, the mare was in such a state, that I felt it my duty to pass sentence of death upon her, as there was little or no hope of her recovery. The owner, however, particularly requested me to undertake the case, and if, in the course of a few days, I should have any hope of her, to spare no expense, as the mare was an old favourite.

With a great deal of trouble she was removed to an open shed, and, when made to stand, it was with the utmost difficulty that she could support her weight behind, for her legs bent under her, and she could scarcely move them. At this time the pulse was 84, extremely feeble, and the mare appeared to be fast approaching to a state of syncope. She heaved much at the flank, the nostrils were dilated and pale; she frequently opened her jaws very wide, accompanied with deep sighs and a peculiar moan, and her eyes were continually rotating in their sockets. At this time I was fearful of internal hemorrhage, and that it would soon put an end to my patient. Venesection was out of the question: the dejected countenance and prostration of strength told tales of a sorrowful nature, and I began to despair. But, by way of doing something, I ordered warm fomentations of bran and water to be continually applied until I returned from preparing some medicine. During my absence she passed a great deal of bloody urine, which unquestionably proceeded from a rupture of the emulgent vessels.

I gave her four drachms of aloes in a quart of gruel, and every four hours drenched her with sulphuric acid in one-and-a-half drachm doses in a pint of water, and allowed her cold water slightly impregnated with alumina to drink. This might almost be considered poison on a dose of physic; but what could I do?—the hemorrhage must be stayed, and I had no alternative.

This treatment was continued until I paid her my second visit, which was about four o'clock P.M. the next day. I was then

surprised to see very considerable improvement. She had eaten a bran mash, and drunk plentifully of the alum and water; the pulse was 78, and easily numbered at the jaw; but, on examining over her wounds, I was surprised when I came to the posterior parts to see a tumour as large as a pumpkin, and quite soft. This I concluded contained blood, and I waited for the healing of the internal vessels before I ventured to open it. The organs of generation were much swollen, embracing the perineum as low down as the udder: the other contused parts were also much inflamed, and the mare was as stiff as a post, as might naturally be expected. I ordered the fomentations to be continued, and a lotion of the acetate of lead and vinegar, diluted with cold water, to be applied to her loins; water of alumina to drink, and a diet of bran and green food, with a strict regard to perfect quietude.

26th.—Pulse 63, physic operating; appetite a little improved; and, with the exception of the bloody tumour and a slight colouring of the urine, the mare looked lively, and was doing well. The tumour was as large as ever, and the owner desired me to open it, as he was sure it contained pus: I remonstrated with him, and informed him of the probable consequence of puncturing it, and wished it to remain for a few days, when there would be little danger. He was very loth to give his consent; but at length I did prevail. I ordered fomentations to the contused parts, and the water of alumina to be continued, and diet as before.

27th.—All going on well, physic set, and appetite improving. For the first time we ventured to move the mare round her box: it was with the greatest difficulty she could be stirred, and she trailed her off hind leg very much. When she was in the act of turning, I heard a noise as if there were some fracture. On further examination I was convinced that the os innominatum was fractured; for after moving the limb in several directions without much pain, and then raising it in a perpendicular direction, having previously introduced my hand per anum, and retaining it there, and using a little pressure at the time the limb was raised, I could distinctly feel the divided ends of the bone move on each other. At that time the mare nearly fell down from pain: the fracture appeared to be about two inches posterior to the articulation of the femur with the pelvis, and the cartilago-ligamentous substance at the symphysis pubis seemed to be torn asunder. I ordered fomentations as usual, the alum-water to be omitted, and a little bruised oats to be mixed with her bran,—to be kept as quiet as possible, intending on the next day to open the tumour.

28th.—Pulse 48; feeding very well: bowels a little constipated;

the contusions about the fore extremities doing well. On pressing the superior part of the tumour, I distinctly felt a portion of detached bone; I immediately proceeded to lay open the tumour by a free incision of the scalpel. At the moment the integuments were divided, the blood gushed out in a most alarming stream, accompanied by large pieces of coagulated blood and several of decomposed muscle. I then introduced my hand into the opening, and took away several portions of the biceps, adductor, and tibialis muscles. The short head of the biceps (which takes its origin from the tuberosity of the ischium) was nearly torn from its attachment. I felt the piece of bone, and removed it; it was about the size of a common molar tooth, and, as I thought, a portion of the tuberosity of the ischium\*. I then injected a solution of the chloride of lime, and afterwards dressed with turpentine liniment; the dressing to be kept in for three days, and during that time the fomentations to be continued; a bolus composed of three drachms of Barbadoes aloes to be given, in order to keep up the peristaltic motion of the intestines, and the mare to be kept as quiet as possible.

*June 1st.*—Pulse 40; feeding well, and bowels freely acted upon. Removed the dressing, when a great quantity of pus mixed with blood and muscle came away: after the wound was completely cleansed, its appearance was quite healthy. I ordered it to be dressed every day with the same application, diet as before, and said that in the course of a week I would see her again.

*June 8th.*—All going on well; the healing of the wound making wonderful progress. Continue the dressing as before. Diet as usual. Be particular in keeping her in a state of absolute rest.

*14th.*—The mare doing well; can walk round her box; the wound healing fast and sound. I particularly observe a great absorption of the gluteal and biceps and triceps adductor muscles, and the muscles of the quarter generally, which I suppose

\* Fractures of the tuberosity of the ischium in the horse are far from being uncommon. Two have occurred to the writer of this note, and both the animals were perfectly useful afterwards. Two or three instances are on record in which they have happened not from the concussion attendant on a fall, but from simple muscular exertion. There is one of this kind at present in the museum of the Veterinary School at Copenhagen. The museum of that excellent veterinarian Mr. John Percivall contained a fine specimen of transverse fracture of the pelvis. M. Crepin (*Journal de Med. Vét.* 1832, p. 497) describes a case in which the os innominatum on one side was broken into six distinct pieces; and some of the muscles—the *obturator*s, the *pectineus*, and the *adductor brevis*—were, to a great degree, converted into that clotty fibrinous substance, of a polypous character, which is often found in the larger bloodvessels.—Y.

was the consequence of the parts being thrown out of use. Dress as before, &c.

*24th.*—All going on favourably. Lameness much lessened; wound nearly filled with granulations; fracture cemented; the muscles feel soft, and very much absorbed. There is paralysis of one of the labia pudendi; the urine running down the thigh and excoriating the parts. I ordered a liquid blister to the whole quarter, thinking it would assist in restoring the lost tone and vigour of the parts. Dress with tinct. of myrrh.

*30th.*—Wound almost healed, and the lameness still decreasing, the muscle looking better and more firm to the touch; the urine ejected a little better. I applied another blister, and dressed the wound as usual.

*July 11th.*—The blister had acted well; lameness scarcely observable; the ejection of the urine perfect; and the mare is well.

*20th.*—Saw the mare this day, and she is now all right, and very playful.

## A CASE OF TETANUS.

*By Mr. W. RICHARDSON, V. S., Oundle.*

JIM CROW, a black pony, not more than twelve hands high, three years old, the property of John Bullen, Esq., of Biggin Grange, near Oundle, in returning from Peterborough on the 10th of July, slipped up and slightly grazed the skin from his knees. As the injury was of so trifling a nature, no notice was taken of it at the time, and he was turned out to graze in the park, as usual.

On the 14th, having occasion to be at the Grange, the first object which caught my eye was poor little Jim Crow, not in a condition either "to wheel about, or jump about," but, to use the groom's expression "all of a piece." He had been observed to be unwell on the night previous, and had been bled, and some castor oil administered to him. I immediately saw that his attack would terminate in tetanus, or, indeed, I might say that tetanus had already commenced. The head was protruded; the nostrils expanded; the muscles of the neck particularly rigid; the gait straggling; the pulse accelerated; and the countenance depicting the greatest anxiety. The dung which he had voided during the day was small in quantity, and more resembled pellets of hard clay than natural fæces, owing to the contraction of the muscular coat of the intestines.

I had him immediately removed into a loose stable, and admi-

nistered an enema combined with tinct. opii. I gave him opii  $\text{zij}$  in solution, and mixed crotonis farinæ gr. xvij in his water, and left orders for him to be kept as quiet as possible.

I saw him again on the morning of the 15th; the symptoms were then more decidedly characteristic of the disease. The head was more protruded; the tail erect and quivering; the fore legs like the props of a stool; the eye drawn into the orbit; the membrana nictitans forcibly thrown over the eye; the breathing laborious, and the slightest movement raising the pulse, and producing upon him a shock similar to what he would receive from the discharge of a galvanic battery. I applied a blister the whole length of the spine; blistered him inside the arms and thighs; administered an opiate enema; and managed, by placing the neck of a small bottle between his teeth and cheeks, to get down  $\text{zij}$  of crude opium in solution. The croton not having operated, I mixed twelve grains more with some gruel which he contrived to suck down during the day and night.

17th.—The croton has operated, and the fæces are discharged in a state of semi-fluidity. The symptoms are much the same as yesterday. I had a skin from a fresh-slaughtered sheep, placed it upon his back with the fleshy side downwards, and banded his legs, as they were exceedingly cold. I also repeated the enema, opiate, &c.

In the evening I again repeated the enema with opium, and mixed with his gruel twelve grains of the croton farina.

On visiting him upon the morning of the 18th, Mr. Bullen informed me that he had not expected that I should again see him alive, as he saw him at 12 o'clock on the night previous, and his sufferings were then so extreme, that he thought he must have died from exhaustion before the morning. I applied another fresh sheep skin to his loins, repeated the enema, and gave him ext. belladonna  $\text{zijss}$  in solution, and desired them to keep him as quiet as possible.

In the evening I repeated the medicine and the croton farina.

On the 19th, the same treatment was adopted, and another fresh sheep skin applied to his loins.

On the 20th he was decidedly better, and continued progressively to improve until the 30th, when he was so far recovered that I considered he might dispense with my services. He was turned out, when the weather was fine, for an hour or two during the day, and since then has been turned out altogether.

I administered the belladonna and croton daily, and varied my other treatment according to circumstances.

He had, when first turned out, a twitching of the hind legs, resembling stringhalt: this, however, has gradually worn away,

and is now scarcely perceptible. I paid him a visit the other day, not professionally, but merely to inquire after his health. I found him grazing in the park, and he was, to all appearance, perfectly recovered\*.

## DISEASED LUNGS—OLD DISCHARGE STOPPED.

*Communicated by Mr. W. A. CARTWRIGHT, Whitchurch.*

ON the 20th April 1837, I went to D. Poole, Esq., of Marbury Hall, to remove some warts from a cart mare's fetlock, &c. This mare has been troubled with greasy heels for some years, but especially, latterly, in the near fore one, and grapes have sprung up in the hollow on the back of the pastern.

I removed a considerable wart sometime last year: but there is now a much larger one occupying the whole of the hollow on the back of the pastern, and also smaller ones round about the fetlock—the discharge is offensive, but not so great as it has been. I cast her, and cut the wart off, and also the smaller ones, and applied the cautery and a dressing of ointment of sulphate of copper to all of them; and gave a dose of physic, consisting of eight drachms of Cape aloes, and which operated on the following day very nicely: I also ordered the surface to be dressed with the same ointment on the following day.

24th.—Going on very well; but as some of the warts had again sprung up a little, I applied the cautery once more, and touched some parts with the lapis infernalis, ordering the former ointment to be occasionally applied, the parts to be kept clean, and the mare to have mashes.

May 1st.—Still going on very well. I simply dressed where the large wart had been cut off with the same ointment, and all the others seemed disposed to heal. I gave another ball of the same strength as the former one, but which did not operate in the least.

5th.—She was this day sent over to me to be dressed. The leg was going on very well, to which I did nothing, but merely

\* At page 187 of the 1st vol. of the "Abstract of the Proceedings of the Veterinary Medical Association," some other cases appear communicated by Mr. Daws, from the practice of Mr. Mavor, of the excellent effect of belladonna in tetanus. Mr. Mavor administered it, like Mr. Richardson, in conjunction with purgatives, but he selected aloes and calomel. Mr. Mavor commenced by bleeding—Mr. Richardson blisters extensively, and has recourse to the sheep skin. The comparative effect of opium and belladonna in this fearful disease,—will some of our correspondents kindly favour us with their experience on this important point?—Y.

ordered it to be kept clean, and to leave it to dry and heal up. I gave a diuretic ball. After I had given the ball I perceived that her breath smelled offensively. I inquired of the boy who brought her how long it had been so, but he could give me no account; and I considered that she had got a cold, and that it was the matter on her nostrils that smelled so; but still I had my doubts about it, as she looked much thinner and worse; her breathing, however, was not quickened.

*9th.*—Mr. P. called at my house for me to go and see her. He was not, as you may well imagine, in the best of humours, and said I had poisoned the mare with my physic. I accordingly went over, and found her very ill indeed; so ill, that I had not the least hope of her recovery, or of there being any use in applying remedial treatment. She was lying down, but got up immediately. She seemed as if she would not live many hours. Her breath was very offensive, and the discharge from her nostrils came evidently from some abscess in her lungs every time she coughed, and which she was scarcely able to do in the least degree. Her respiration was of a most laborious kind, and like that of a broken-winded animal. She died on the same night.

*Examination.*—The next morning I went to see her opened, but found that the keeper had already examined her. Her lungs were on the dunghill, and were nearly one mass of disease, being almost filled with abscesses, and in a most rotten state.

*Observations.*—When I cast this mare, I had little expectation of such a result, as she then appeared to be in perfect health, with the exception of having had, a few days before, a harrow-tang run through the frog of the foot of which she was lame, and in consequence of which the owner thought she had better be operated on now for the warts, that no time might be lost. The injury to the foot Mr. P. had attended to, and it appeared to be going on very well, and so did the parts I operated upon. Now what brought this disease on? I am inclined to think the following:—From the injury the foot had sustained with the harrow, and also my cutting the warts and stopping the discharge about the heels: probably she might have caught a cold when she was cast, for it was very cold and hailed, and she, of course, perspired not a little during the operation; perhaps, also, she was not properly attended to after having the physic. These things put together may have set up irritation in the system, and which, becoming transferred to the lungs, might have produced the disease. The stoppage of the discharge I think could not have produced it *solely*, as it was not so great just prior to my stopping it as it had been before; and also there was a pretty good one all the time from the wound, and which

was not at last healed up by upwards of an inch in breadth. Until the last time I saw her I did not notice any increase in her respiration, and it was only her offensive breath and general bad appearance that indicated the disease, and in which state I only had an opportunity of seeing her once. The waggoner said that she had had a cough for sometime before, but it was not much, and did not seem to affect her, and that she only began to be worse after she had had the second ball, when her cough became more difficult and very short: her breath, he said, began to smell soon after I operated on her, but he at first thought it was from her leg.

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### PUERPERAL FEVER.

WE have received a letter from a correspondent under the signature of "A Yorkshire Farrier and Cow-leech." Why not favour us with his real name and address? We are thankful to receive instruction from any and from every quarter. We look only to the value of the facts which are stated, the legitimacy of the conclusions that are drawn from them, and the spirit with which they are communicated; and we never yet did, and never will, reject that by which veterinary science may be in the slightest degree advanced.

Our correspondent regards Puerperal Fever as being almost uniformly connected with acute indigestion or produced by it, or identical with it. He says that he has availed himself of every opportunity that presented itself of examining the cows that have died of indigestion, and he has almost invariably found the manyplus distended and its contents perfectly dry. The result of his inquiries into these cases has been, in the great majority of them, that the cows have been improperly fed.

When his advice has been required respecting a valuable cow previous to her calving, he has always directed that she should be sparingly fed for a week or fortnight before her expected time, and with free access to as much water as she may choose to drink. As soon as she has calved and settled a little, he gives her from half a pound to a pound of Epsom salts, with a little nitre, dissolved in water of a blood heat; and he orders that her food shall be easy of digestion, and not too great in quantity, and that she shall gradually return to her usual allowance.

All this is on the supposition that the cow is housed; but if she is in the field and the grass luxuriant, he orders her into a barer pasture, and to be treated in other respects like the former; and he says, that of some hundreds of cows that he has had

the opportunity of managing and preparing before parturition, he has not lost one. He may not do a great deal better than his neighbours when he has the fully developed disease to struggle with, but he has the means of prevention quite in his power. He often tells his employers that the cow has got a warehouse in her in which she hoards up a great quantity of food to eat at her leisure; that this may all be very well, generally speaking, and when she has nothing else to do but to prevent the contents of the warehouse from running to putrefaction, as they are too apt to do, and breeding a kind of pestilence in the place; but that, when all her attention is employed about her labour and her young one, and there is something about the house tending fearfully to increase this putrefactive quality, it is downright murder for the warehouse to be crammed.

The reason that cows oftener die of puerperal fever in the summer than in the spring, is that the grass contains more stimulating matter—is more difficult of digestion—and tends to produce costiveness instead of the healthful laxative effect of the spring grass.

In farther illustration of his views, he relates a case which occurred to him in February last. A cow had calved on the previous day, and was now down and perfectly paralyzed. The muzzle was dry, the horns hot, the pulse 90 and feeble, and both jugulars strangely distended. He inquired how she had been fed lately. The owner said that she had had plenty of hay on the preceding day, and that morning he had been giving her grains. The case was plain enough;—acute indigestion was at the root of the mischief. He bled her, and physicked her, and used all possible means to save her, but she died; and owing to repletion of the stomach (for the manyplus was distended to an enormous size), the contents were dry, and the inner coat of the stomach firmly adhered to the mass.

There is much good plain sense in this communication. We thank our “Yorkshire Farrier and Cow-leech” for it; and when he writes to us again, we trust that he will favour us with his name and address.

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## A FEW GENERAL OBSERVATIONS ON PUERPERAL FEVER.

*By Mr. A. WILSON, of the Edinburgh Veterinary School.*

By discussion, either on medicine, law, or politics, there is generally some good effected; and whether such discussions are carried on verbally or sent to the press, still the result is the same

—we arrive at some valuable conclusion when one party is found to be in error and the other to have truth on its side. There is no denying that, in some questions regarding either of these three subjects which I have mentioned, both parties may be found to be wrong; but still the one may have common sense and reason on his side, which the other has not—the one is advancing towards the truth, but the other is going in a contrary direction—the one sees light at a distance, but with the other all is

“Dark as was chaos ere the infant sun  
Had tried his beams athwart the gloom profound.”

I have been led to make these remarks from the long-continued discussion in *THE VETERINARIAN* on *Puerperal Fever*; for I had earnestly hoped, when you mentioned that the London Association was about to discuss this subject, that its pathology and mode of treatment would be set at rest for ever. This, however, is not the case; and the discussions on this disease by the General Assembly (if I may be allowed so to term the Association) were very unsatisfactory—they left the disease in a worse form than that in which they found it. Before the debate we justly relied on the talented description of it found in the work on “Cattle,” in the Library of Useful Knowledge; but now, this very work, in consequence of *the new theory*, is looked on by some with suspicion, and a doubt hangs over their minds as to its correctness. This I must say, has been clearly the result.

I do not insinuate that some have spoken and written on this disease who were far from being competent to the task; but from many of their conclusions I am compelled to infer that the pathological part of their education must have been sadly neglected, or else they must have confounded this disease with some others that require very different treatment indeed. What more glaring instance of absurdity can I mention than what is stated by one of your correspondents in *THE VETERINARIAN* for February, page 93? There, we are told, was a case of puerperal fever in a cow, and that the “stimulating treatment,” recommended by some one, was “adopted with complete success.” But what sort of stimulating treatment, think ye, was this? It was opening both jugulars (one being insufficient) and abstracting *nine quarts of blood*; and giving one pound of sulphate of magnesia, with some more medicines of a *stimulating* nature. What progress is veterinary science making when such treatment as this can be called “stimulating?”

In this very case no information is given regarding the state of the pulse—the criterion which ought to regulate the abstraction of

blood at all times—as if this had been a point which could not be revealed without endangering the safety of the *new theory*. Surely the circulation must have been fearfully increased when both jugulars were opened, and nine quarts of blood taken; and if it were so, why conceal it? If the pulse was not felt (and on this there is some doubt), it was certainly very unwarrantable practice to bleed at all. Yet no notice is taken of the pulse either before or after the bleeding, although the quantity of milk which the cow gave is regularly particularized, “after the calf had done.”

I am exceedingly sorry that the result of the discussion on Puerperal Fever by the Association should have proved so very generally inconclusive. As the expectation was great before the discussion commenced, the disappointment is equally so, seeing that the conclusions were so “lame and impotent.” Before, as I have mentioned already, nobody doubted Mr. Youatt’s excellent description of this disease; and few, very few indeed, will be found to doubt its correctness even yet: but still, among the weak and wavering, and who cannot think for themselves, there will be found a convert here and there to the strange, newly-formed doctrine of its being a disease of the nervous system, requiring “stimulating treatment,” of the same description, I presume, as in the case already mentioned; and if so, I shall easily understand in future what “the London-taught veterinarians” mean by “stimulating treatment;” and I shall also know how they cure all their cows labouring under milk fever.

That this disease originates in fever, there can be no doubt. Whether it be of an inflammatory character or not, still the earliest possible symptom is, fever. And why should this opinion be doubted? or why should it be supposed to be a disease of the nervous system, when it has been satisfactorily proved that fever exists at the commencement, in whatever way it may end? I most freely admit that, in some cases, this disease is, to a certain degree, different from that in the human subject; but it will be found that many of the causes which produce it in women will bring it on in the lower animals; and as bleeding, fomentatives, and laxatives are generally employed for the former, and adopted with great success in the latter, what more can be wanted? It may be remarked, that an animal after delivery is like a house full of fiery combustibles, where the least spark will set it in a flame. And it needs not be matter of surprise to any one to find a very considerable degree of fever at this period, seeing that the tide of the circulation had been directed to the uterus for nine months before. Nor are warm fomentations in this disease so generally employed, I am sorry to say, as their import-

ance demands ; but even although accompanied with purgatives and clysters, these will not be found enough unless the lancet be freely employed.

It has been often stated as a great objection to bleeding, that this disease is one of *debility*. Notwithstanding this assertion, which I partly admit, and which sometimes happens, I must state, that inflammatory fever may be doing its worst, even with all this debility ; and when such inflammatory action arises, under such circumstances, it is, of all others, the most dangerous, and the quickest in its progress through its different stages.

That there is generally greatly increased action in puerperal fever no one, so far as I know, has had the hardihood to deny ; and if this be admitted, are stimulants to be the means adopted for reducing it ? Will common sense justify such conduct, or common honesty allow it ? Could we expect to cure this inflammatory affection by stimulants, in the vain hope that it would subside, while the system was under their influence ? Wherever stimulants are employed in this disease, and where bleeding and purgatives are omitted, I am perfectly convinced that death will be the consequence. The experience of others justifies this remark.

It is, perhaps, true enough, that many animals have been bled to death in every inflammatory disease which can be mentioned ; and I have little doubt that the same melancholy result has happened often enough in puerperal fever, where, for instance, both jugulars have been opened at once (for despatch), without having consulted the pulse to ascertain whether or not bleeding was required at all. Surely, however, that can never be adduced as a fault in the remedy which is nothing more than an error in the application ; and if this error should occasionally happen, yet it must be allowed, that greater mischief has been done from not using the lancet, than from an imprudent and rash use of it. The fault of bleeding to excess, or of not bleeding at all, lies entirely with the person who attends the case ; and if, as unfortunately it too often happens, the animal should die, the practitioner calls it “a stubborn malignant disease ;” and, affirming that it had assumed a typhoid character, he asks, “How was it possible to effect a cure ?”

This is the common-place humbug with which he consoles the poor owner ; but such practice as this will soon cure itself ; it cannot remain long without being detected. To blame the disease, forsooth ! as being untractable, instead of blaming his own ignorance, carelessness, or stupidity, or all put together.

Bleeding has often been termed by Professor Dick “the sheet anchor in all inflammatory affections ;” but, simple in itself though the operation be, what other can I mention which is of so

vital importance, when it is judiciously done? yet what operation is more frequently bungled? When bleeding is properly performed, it very soon alters what is called the malignant character of puerperal fever; and the same remark is equally applicable to the way in which practitioners attend their cases in this as well as in many other diseases; for our success will entirely depend upon the attention which we pay to our patients. What is to be expected but death when only one or two visits are paid each day to an animal labouring under an inflammatory affection? In the morning we cannot bleed,—in the evening we are afraid; but we have, perhaps, lost the golden hour at mid-day, when we could have opened a vein not only without danger but with the happiest results.

I must now conclude; and perhaps no one will blame me for exposing what I do not believe to be the truth. This paper has, no doubt, many faults; but where is there one without them? If some of my opinions do not agree with the statements of others, I cannot help it; I am no more bound to their views than they are to mine; and if we differ, we have a right to do so. I would reject the opinion of my teacher if I had good grounds for so doing; and he would not blame me for it. Are young men to leave the college or the school to go through life with the, perhaps, old-fashioned opinions of their teachers buckled on their backs, not daring to think for themselves, as if this were breaking the decalogue? Is every improvement to be viewed as an innovation, and looked on with a jealous meanness of spirit, unbecoming and at variance with the general character of our teachers? Surely not. It is to be regretted that many young men, after leaving the college or the school, think that no more study is required, for, acting upon this principle, they will be found in a few years with very little more information than the common farrier or blacksmith.

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[We had considerable doubt as to the propriety of inserting this paper. There is a want of courtesy about it which must render "discussion either on medicine, law, or politics" productive of far more harm than good. There are insinuations, and plain point-blank assertions, which, with regard to veterinary practitioners on both the north and the south of the Tweed, we indignantly repudiate; and we would also, in the strongest language we can use, enter our protest against the repeated attempt to kindle dissension or jealousy between either the teachers or the pupils of the northern and southern schools. Our object, our wishes, our interest, our reputation are the same; and let no one wilfully or incautiously scatter the seeds of discord between us!—Y.]

## CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. XV.

By Mr. YOUATT.

[These contributions, confined almost solely to the *feræ naturæ*, are resumed, and shall be continued. Although a few of our veterinary brethren complained of them, we did wrong in suspending them; for these records of disease, its symptoms, course, and treatment, in animals of such various character, cannot fail of being essentially useful, both to the practitioner of human and of veterinary medicine. The fatal cases will be mostly selected, for they will speak most plainly for themselves.—Y.]

## HEPATITIS IN A LIONESS.

1833, Aug. 5th.—LIONESS. This is about half the time of her usual period of utero-gestation. One of the keepers passing by this morning, saw her eating something that looked red. It was probably an abortion; for, in the course of the day, she discharged a considerable quantity of bloody serous fluid from the vagina. Give her four grains each of calomel and antimonial powder.

10th.—She has seemed to be going on well, except that she has not quite her usual appetite and spirits. Repeat the powder.

14th.—She has been heard to cough; she evidently heaves more than she should at the flanks, and she will not eat. Give her a third dose of the powder.

16th.—The medicine has briskly purged her; but she refuses altogether to eat, heaves more than before at the flanks, and the muzzle is dry and hot. Bleed her from the palate, the only place at which we can possibly accomplish it.

17th.—She bled well, but she licked up or swallowed the greater part of the blood. Her respiration is not quite so laborious, but she will not eat. Calomel and antimonial powder as before.

19th.—Very little change; and as she will not eat or drink, it is impossible to administer medicine.

21st.—She does not heave so much, but there is an inward groaning accompanying each act of respiration. She still refuses to eat. She will still occasionally come up to us and lick our hands. Let the keepers watch, and try to shake four grains each of calomel and antimonial powder on her tongue.

22d.—The powder was shaken on her tongue, and a small portion of hardened feces evacuated—the first for four days. Give

her six grains each of the calomel and antimonial powder. This was cleverly managed.

24th.—The medicine has not operated. Give four grains more of each of the drugs, and endeavour to abstract more blood.

25th.—It was impossible to bleed her again. The medicine has not operated. She is the most manageable of her kind: try to give her four grains of the farina of the croton nut.

26th.—The medicine was given, and produced one pultaceous stool. She was also sick, and vomited a considerable quantity of tenacious, dark-waterloo-blue coloured matter. There was more than a pint of it. It seemed to be vitiated bile, mingled with mucus of more than usual density and tenacity. Give two grains of tartar emetic, as there may be more of this poison.

27th.—The emetic was not given, for she will neither eat nor drink, nor longer be cheated. Mix it with a little tar, and rub it on her nose.

28th.—The medicine produced its effect, and she vomited more than a pint of tenacious matter, of a green colour, mixed with yellow. She was much exhausted, and lay as if she were dead: by degrees, however, she rallied, but continued very languid and weak. After that she was sick again, and vomited more bilious matter. She really looks more cheerful. Let her alone.

30th.—She drunk a pint of milk this morning, but lies heaving and groaning worse than ever. She has had two very small motions, composed principally of bile. Try to give her four grains of calomel, and move her into a higher part of the garden.

31st.—The weather has prevented her removal. The calomel has produced two bilious stools. Repeat it.

Sept. 1st.—The medicine could not be given until this morning. She had scarcely taken it before she turned away, and died without a struggle. The lungs were in various places and extensively hepatized; in other parts they were emphysematous. The liver was in a state of decomposition; its softening amounting almost to pulpiness. The duodenum and the large intestines were loaded with bile. Not the slightest inflammation existed in the stomach, or any part of the intestinal canal. We must attend more to the commencement of these bilious complaints. The absence of all inflammation in the stomach and bowels shews that we may push our calomel to a great extent. Salivation was commencing.

#### VOMICÆ IN THE LUNGS.

1833, *July 8th.*—SLOTH BEAR. He has been a little dull for two or three days, and coughs. Give two grains each of calomel and antimonial powder.

12th.—More lively, but the cough is worse. P. digital. gr. x, et p. antim. gr. v, morning and night.

13th.—The cough seems to be a sympathetic one, and dependent on an affection of the liver. The stools contain a great quantity of bile, mingled with mucus and little fecal matter. Give two grains each of calomel and antimonial powder on each alternate day.

14th.—The medicine has operated well; the feces, pultaceous, have more of their natural appearance, with little bile. Pause for a day or two.

16th.—The cough is more urgent, and his appetite and spirits are declining. Small doses of antimonial powder were administered. The digitalis could no longer be given. He gradually drooped, and died on the 12th of August, and rather unexpectedly. The liver exhibited marks of former inflammation; but the mischief was in the lungs, one of which was excavated by an immense vomica. The case was a deceptive one throughout.

#### TUBERCULATED LUNGS.—DISEASE OF THE HEART.

1833, Nov. 20th.—ENTELLUS MONKEY. Drooping all at once, and off its food. Give two grains each of calomel and antimonial powder.

24th.—No improvement. Repeat powder.

26th.—Rapidly losing flesh: will not eat. Give him gruel, with a little ginger.

27th.—Died. The lungs full of tubercles—few larger than a pea, none having suppurated. Dilatation of the heart generally, and beneath its proper investing membrane minute vesicles, presenting the appearance of extravasated air.

#### TUBERCULATED LUNGS, LIVER, AND SPLEEN.

1834, Feb. 27th.—RHESUS MONKEY. Dull; off his food; clinging to his companion to be nursed. Give half a grain each of calomel and emetic tartar.

March 1st.—Very little relieved. Repeat the emetic.

6th.—Not at all improving. Qy. Phthisis? Continue the calomel and antimonial powder, which it has had for the last three days.

8th.—No alteration. Give two grains of antimonial powder daily.

10th.—Rapidly wasting, and continually coughing. Give calomel and antimonial powder, one grain of each, with half a grain of opium.

12th.—Still losing ground. Repeat medicine.

15th.—Nearly dead. Keep comfortable, but do not annoy with medicine.

16th.—Dead. Tubercles in the lungs, liver, and spleen. The last very much enlarged and diseased; very considerable peritoneal inflammation, which seemed to be the immediate cause of death.

#### GANGRENOUS ULCERATION.

1834, *Jan. 8th.*—GREY SQUIRREL. Little dark spots, rapidly changing into bullæ, appear on every part of him, particularly about the muzzle and head. They burst, and a minute but deep ulcer is left, which spreads with greater or less rapidity. On the belly these bullæ are much larger. Two or three, or more, minute fistulæ appear in each, perforating and burrowing into the centre of it. They are hot and tender. Foment with warm water; then soften a little of the red ointment (resin, calamine, and lard) between the fingers, and very gently rub it well into the tumours. Give a grain each of calomel and antimonial powder daily.

10th.—Very little change. Continue treatment.

12th.—No change. Leave off the ointment, and apply tincture of myrrh after the fomentation.

15th.—Less inflammation; but the wounds are more numerous, and the sinuses deepening. Bathe with a solution of chloride of lime, and afterwards apply tincture of aloes.

16th.—The wounds are dryer and healthier. Continue the applications.

17th.—Still improving. Continue treatment.

18th.—Still improving. Continue treatment.

20th.—A change much for the worse has suddenly taken place. The sores on the belly are larger and deeper—they are spreading almost every hour, if I may dare to say so. The disease has attacked the feet. The pollex and first digit on one of the hind feet are evidently sloughing off.

22d.—The sloughing has gone on; the ligaments have separated; and the tarsal bones are no longer united to the tibia. Consent has been obtained to destroy the animal. The lungs seemed shrunk and diminished; the whole of the digestive canal was contracted; but, otherwise, there was no morbid lesion.

#### DISTEMPER.

1834, *Feb. 17th.*—OCELOT. Dull: a slight defluxion from the eyes. Give two grains of calomel, and the same of antimonial powder.

19th.—Defluxion from the eyes and nose increased, with short and painful cough. The animal feeds well. Give half a grain each of calomel and emetic tartar.

21st.—Much worse: the discharge considerably increased: the animal weaker, and the appetite gone. Give three grains of antimonial powder morning and night.

22d.—Dead. No apparent cause of death; but that diminished calibre of the intestines, and strange collapse of the lungs, which is found in most of the feline tribe that die of distemper.

## CASE OF OBSTRUCTION IN THE PASSAGE OF THE DUODENUM, FROM INJURY TO THE INTERNAL SURFACE OF IT.

*By Mr. DICKENS, of Kimbolton.*

ON the morning of April 30th, a servant came in haste from Mr. Bliss, of Dean House, stating that a cart horse was very ill, and required immediate assistance. Having left home in a contrary direction, and my return being uncertain, an assistant attended, and found the leading symptoms to be those of an ordinary attack of indigestion (he had been living on pea straw), and administered to him, aloes  $\mathfrak{z}$ ss, pulv. opii  $\mathfrak{z}$ j, sp. nit. æth.  $\mathfrak{z}$ i, and also abstracted four quarts of blood.

I visited him in the evening, and found him tranquil. The feces had become pultaceous; the appetite was good; and in three days he resumed his work. All appeared to go on well until the morning of May 9th, when I was hastily aroused with the news that the black horse was ill again. I arrived at 7 A.M., and found him labouring under the greatest pain; constantly down, and endeavouring to get on his back; pulse 45, small and hard: the feces covered with mucus, and the mouth clammy. I did not have recourse to my lancet, partly because he had been bled so lately, and principally because I did not consider that his symptoms immediately called for it, hoping it might pass off as his former attack had done. I gave him aloes  $\mathfrak{z}$ ss in solution, with  $\mathfrak{z}$ ij tr. opii, and ordering him to kept on the move. I left with a promise to visit him again at eleven.

I then found that his pains had increased very much; he was continually throwing himself on his back, or sitting on his haunches like a dog. I abstracted 10lbs of blood, and administered tr. opii  $\mathfrak{z}$ ij, in a pint of strong peppermint water. Enemas were injected, and hot water applied to the abdomen.

10 P.M. He is much worse, and there is no intermission from pain. Pulse 36; the extremities moderately warm: no feces have passed. His favourite position is still on his back, beating the inferior portion of his chest with his fore feet, so much so that it was necessary to place a rope round them, and to set a man to protect it. I gave ol. lini. ℥j, ol. croton gtt. x, and abstracted 8℔s of blood, which produced faintness; after which he was tolerably quiet for some few hours. The enemata were continued, but rejected without discolouration. The owner being indisposed, and unable to pay him that personal attention he could wish, I remained with him the major part of the night.

10th, A.M.—The case now seems, or indeed is, quite hopeless; the pulse varies so much as not to be accurately calculated. The medicine not having operated, I repeated the oleaginous draught, and blistered the whole surface of the abdomen.

At 5 P.M. death closed his sufferings.

*Post-mortem examination two hours after death.*—The abdomen was first inspected, and my surprise was great, after witnessing his lengthened and excruciating sufferings, to find the peritoneum so little tinged. The stomach contained but a small quantity of food, and was inflamed, but not sufficiently so to satisfy my mind as to his death, it being, in my opinion, more the effect of my physic than of the primary disease. Reaching the duodenum, and at about ten inches from the stomach, the source of all the mischief was displayed. That intestine was so contracted as not to allow the passage of the chymous mass that was there congregated; in fact, there remained only just room to pass a common-sized tobacco-pipe through it, and, for about four inches anterior to the diseased part, it was strangely distended. I cannot give a better notion of it than by saying, that it reminded me of the large sausages that are hung in some of the London shops. The mucous membrane was highly inflamed and discoloured. The contracted part seemed to have been caused by some injury to the inner surface, as if a nail or other hard substance had lodged there, and, in fact, perforated it. The small intestines were empty, and slightly inflamed; the large ones were healthy, as were the liver, kidneys, bladder, and all the contents of the thorax, &c.

*Remarks.*—This horse had been in Mr. Bliss's possession for a great length of time, and had never had any sickness until his attack on the 30th of April. Was it then that the bowel received its first injury; and by the depletive measures used, mischief was arrested for a time; and that, assisted by the laxative medicine and soft regimen, nature had time to perform a temporary cure?

I did intend to have made a wet preparation of the bowel, and anticipated the honour of presenting it to the President of your Society for his inspection, knowing how pleased he is to add any morbid specimen to that vast collection which his industry has already acquired; but I regret much that, from an accident, it has been so mutilated as to be valueless, except to myself.

In conclusion, Mr. Editor, may I ask, what situation I should have been placed in if Mr. B. had sold the animal between the attacks, and my opinion had been required by the purchaser? Should I not have been justified in giving it against him? Veterinary jurisprudence is a portion of our art that has been little treated of, but upon which much might be said by some master-mind.

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## THE EFFECT OF IODINE ON GLANDULAR TUMOURS.

*By Mr. HOLFORD, of Northwich.*

OBSERVING in the last month's VETERINARIAN several cases relative to the action of iodine in glandular enlargements; being also encouraged by a pleasing and somewhat persuasive sentence in Mr. Cowell's remarks, I transmit the following:—

The subject of my patient was a Welsh galloway, of an exceedingly plethoric habit and hardy constitution, aged six years, the property of John Cheshire, Esq. of Hartford, near this place. On July 16th, 1836, I was requested to examine the animal's throat, as she did not display her usual spirits and vigour during that day's journey. On finding the parotid glands enlarged, and the other symptoms usually connected therewith, I ordered a blister to be applied to the throat, and gave a little sedative and laxative medicine, hoping, with the addition of mash diet, that in a few days she would be convalescent.

My patient being six miles from my residence, I was prevented from seeing her again until the 3d of August, at which time I found the glands larger. I now anticipated that suppuration would be the termination of the case, and with a view to hasten it I repeated the blister, and ordered that, after its action, hot poultices should be applied until I next saw her.

10th.—The tumour is no smaller, nor is the suppurative process in the slightest degree advanced. From this time to the 20th I occasionally visited my patient. My treatment during this period consisted in repeated blisters, mercurial frictions, vari-

ous stimulating embrocations, poultices, and all other remedies I thought likely to disperse the tumour, but without the slightest success.

On the 22d, I was requested to ride over in haste, the owner being afraid that she was dying; and I believe that, had I arrived an hour later, she would have perished from suffocation. Her breathing was accelerated and laborious, and might be heard at a considerable distance. The head was protruded, and the nostrils distended—the eyes were fixed, and the limbs set wide apart, which, with an occasional reel, caused the spectators to expect that she would immediately drop and die. I, at once, had recourse to tracheotomy, which gave her instant relief, and in the course of three or four hours her breathing became quite tranquil. The canula remained in the wound for a fortnight, except that it was daily taken out and cleaned. During this time the iodine ointment was well rubbed on the glands twice a-day, and twelve grains of the metal given internally night and morning.

The medicine and ointment were continued to the 30th of September, at which period the wound in the neck had healed, the glands were of their natural size, and the mare quite capable of her usual work. She has remained sound to the present time.

## ON THE ENLARGEMENT OF THE NECK IN LAMBS.

*By* VETERINARIUS.

NOT having seen any remarks in *THE VETERINARIAN* for September relative to the “enlargement of the neck in lambs,” which appeared in the August number, I am induced to consider it a disease (if it may be so called) of rare occurrence; but as your journal is free for opinions as well as cases, I beg to transmit you mine.

As the South Downs are a breed of sheep which prevail on the dry chalky downs in Sussex, as well as the hills of Surrey and Kent, I should impute this defect to the influence of the water in any new locality, and its probably possessing some saline or mineral properties, which did not exist on their native hills. As regards the flocks of the other breeds, those ewes which did not produce lambs with this defect had probably become habituated to the properties of the water in their new residence. The fact of the tutor’s lambs coming all perfect, I should attribute to the snow-water which was given in the early period of gestation, as certain experiments have proved that the water of dissolved snow is the purest that can be procured.

According to Lord Somerville, the Merino or Spanish breed of sheep have naturally a degree of throatiness or production of loose pendulous skin under the neck.

With regard to the difficult and spasmodic action in breathing, I should consider it to be owing to the pressure of the swelling on the upper part of the trachea; and the mucous discharge from the nostrils to be traced to the breaking of the tumour internally, as in one of the cases, where there was discharge from the nasal cavities, the swelling evidently decreased.

The old sheep shewing this enlargement renders it quite evident to me that the cause of the disease is to be attributed to the water being impregnated with saline or mineral properties. If the owner were to give his sheep water impregnated with lime or chalk, and remove them to a dry upland pasture, the defect would, in my opinion, entirely cease. I think your correspondent would have elicited more and better advice had he given the post-mortem appearances, and particularly the state of the tumours.

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[Our occasional correspondents would confer on us much obligation, by communicating their experience of this disease. Some breeders, far far distant from us, are anxiously awaiting a satisfactory elucidation of the subject.—Y.]

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## DR. CHISHOLM ON THE MALIS DRACUNCULUS.

[Concluded from p. 376.]

OF late, the propagation of the disease has been assigned to contagion. My excellent and respected friend, Sir James Macgrigor, and other gentlemen connected with him, or residing in the East Indies, have favoured the public with very valuable information on the disease of which dracunculi are the cause: but they have not been sufficiently communicative on the very interesting subject of the physiology of these animals; and, perhaps, from not having sufficient opportunity to examine and inquire into the local circumstances of the country from which this cause of disease was derived, and deceived by the extraordinary symptoms it exhibited, which the previous knowledge I have alluded to would have explained, they have assigned it to contagion, or that principle which communicates the disease by the emanation of its virus from the person suffering under it to a healthy one. How this can be effected in the case of dracunculi, I can by no means conceive. There is, however, I apprehend, a deficiency in the statement of the circumstances which led my friend to the

opinion that the disease was infectious. He says, "During the voyage, 199 cases had appeared out of 360 men of the 88th regiment; and several cases occurred among the ship's crew; but not a single case occurred among the artillery. This struck every one on board, very early, as remarkable; yet these men had the same provisions, drank the same water, and in every other circumstance were situated as the men of the 88th regiment, except that they were kept separate. From the outset the artillerymen were accommodated apart, on the gun-deck, in a spot divided for themselves. Not one of the officers, either of the artillery, 88th, or belonging to the ship, had the guinea-worm. From the strong circumstances which in its course appeared, every officer on board was impressed with the opinion of its being contagious, and was inclined to use every precaution of prevention, from which, most probably, all escaped this filthy and severe disease." (*Med. Sketches*, p. 208). The deficiency I advert to is, that the water drank at Bombay Island by the detachment of the 88th, in which the disease, by the foregoing extract, almost exclusively appeared, and that which the artillery and all the officers drank at the same place, *previous to their embarkation there*, is not specified. If the soldiers of the 88th drank the common spring-water, and the artillery and officers rain-water, on the Island of Bombay, the exclusive affection of the former is at once accounted for. We are told that there is much evidence of volcanic influence in the formation of Bombay and the adjacent islands; the nature of their rock and soil, the singular caves they are distinguished by, their very disjointed appearance, all manifest a disruption from the continent *vi quondam et vasta convulsa ruina*. We are told, also, that the soil is sterile, and incapable of improvement; that the Island of Bombay, more especially, has no good water upon it; that the best is rain-water, preserved in cisterns, that which their wells furnish having a brackish disagreeable taste; and so well aware are the Gentoo inhabitants of its possessing noxious qualities, that they never make use of it, a principal cause, it is believed, of their exemption from the *nurkoo* or guinea-worm. Gentlemen who have long resided at Bombay have favoured me with these particulars; and, from the general tenor of my reading and conversation on the subject, I have no doubt of the facts. (See *Mod. Univers. Hist.* vol. x, p. 226; *Encyclop. Britan. art.* "*Bombay*.")

An examination of the narrative Sir James Macgrigor has favoured us with in the Medical and Surgical Journal of Edinburgh, vol. 1, will, I think, further elucidate the opinion I have formed, and render that of contagion totally unnecessary. It appears from his journal (p. 270, &c.), that the first case of

guinea-worm occurred in the 88th regiment in September, 1800, at Cowlabah; that the second case occurred in October; that on the 8th of this month the regiment was removed to the fort of Bombay, which is said to be partly surrounded by a wet ditch; that two cases appeared in November; that the regiment sailed from Bombay on the 9th December, and arrived at Point de Galle, off the island of Ceylon, on the 29th, a situation high and healthy; that six cases occurred during this voyage; that in the month of February only two cases occurred in eight companies of the regiment in their voyage along the coast of Malabar; that in the month of March, the same portion of the regiment being still at sea, 103 new cases of the disease appeared; that during the month of April, in the voyage from Bombay to Judda, on the coast of the Red Sea, 160 cases were in the sick list of the disease; that in May only eight new cases occurred; and that in this month the Indian army landed at Kopur: the obvious inference from all these premises, I imagine, is, either that the embryos of the worm penetrated through the skin, and lodged under it, or, what is infinitely more probable, that the ova of the dracuncule were received into the stomachs of the men at Bombay with the water which they drank; that they mixed with the chyle, and entered into the blood in the living state, and finally were deposited in the cellular membrane and interstices of the muscles, where they were hatched, and produced living insects. Thus the process of evolution observed the same order, and nearly the same time, as at Point Saline, stated in the preceding part of this paper. My ingenious friend has, without intending it, deduced the same result (see *Edinburgh Medical and Surgical Journal*, vol. i, p. 284). The observation of the natives, and the remarks of M. Dubois, a respectable and learned missionary, in his letter on this subject to Dr. Anderson, the physician-general, are immediately in point, and, by their coincidence with the history of the epidemic at Point Saline, furnish a very remarkable elucidation of my proposition, founded on that history. "When this disorder (which prevails all over this district, as well as many others in the Carnatic and Maclura, to within the distance of one or two days' journey from the sea coast) breaks out, it is sometimes epidemic; so that I have often seen villages in which more than half the inhabitants were affected by it at the same time. Although it appears at every season of the year, *yet it more generally breaks out in the months of December, January, and February. It is then that it becomes general in many cantons.* Admitting that water has no share in their formation, it will not be easy to explain how the inhabitants of a village, *who drink water from one well, are*

attacked by the disease, whilst the inhabitants at the distance of only half a mile, who drink water from another well, are not exposed to it; or how it happens that those living on the shores of the Cavary, and other rivers, who constantly drink their limpid waters, are never visited by it; whilst those who live at a distance of one mile on both sides, and are obliged to drink the saltish water of wells, are all, or the most part, yearly exposed to it. Dr. Anderson, although desirous of maintaining the admission of the worm by the skin, cannot get rid of M. Dubois's powerful fact. "Nor can we cavil," says he, "with the idea of an entrance by the chylipoetic organs, when we see worms in the eyes of horses and the livers of sheep." (*Edinburgh Medical and Surgical Journal*, vol. ii, p. 301, 305). Dr. Anderson afterwards remarks a very singular circumstance in the history of dracunculus, which perfectly corresponds with my own observation at Grenada, and with that of others at Bombay. Your notice of wells of saltish water, where the guinea-worm is most frequent with you, renders it in some degree probable that vitriolic and marine salts, which are found both in the wells and in the sea, are not unfavourable to their propagation.

But setting aside these disproving facts, if they may be so considered, respecting the contagious nature of draunculi, it is evident that the "*exanthemata viva*" can in no instance be infectious in the manner supposed to have happened in the 88th regiment. "*Insecta ejusmodi minutissima forte acaros diversæ speciei, causas esse diversorum morborum contagiosorum, ab analogia et experientia, hactenus acquisita, facili credimus negotio; neque repugnat horum structura et magnitudo; minima enim sunt animalcula quæ oculius humanus adhuc percipere potuit. Ex sensibus agitur, ad rei impossibilitatem non est argumentandum; æque enim in minimis ac maximis sapientissimi conditoris artificium elucet.*" (*Amœnit. Academ.*, tom. v, p. 94.)

In this learned and interesting discussion, the author employs the words contagion and contagious in their literal and legitimate meaning, as they are derived from the verb *contingo*, and not in the figurative sense in which they are generally applied. By contact, then, colonies of minute insects may emigrate to and form establishments on a healthy person from a diseased one. But such colonizations are confined to insects of the acarus kind; and in all the diseases which the writer of the *Exanthemata Viva* attributes to the agency of insects, different species of the acarus are alone the cause. The nature of dracunculus is inconsistent with this mode of propagation, more especially under the circumstances the soldiers of the 88th regiment are

represented to have been in on shipboard. On the other hand, there is much reason for believing, as I have already said, that the ova of the dracunculi were received into the system by the stomach, and deposited in the cellular membrane, and, having attained their period of evolution, appeared in the persons of the soldiers in such numbers as to induce my respected friend to assign the disease to contagion, in the figurative sense in which the word is usually received. The period of evolution corresponds, it will be observed, precisely with the narrative Sir James Macgrigor has given, and with the history so clearly stated by M. Dubois. The very interesting account of the *acaros siro* of Madeira, there called *ougöes* by Dr. Adams, is a fine exemplification of the *contagion* of insects, or of the *exanthemata viva*. (See *Medical and Surgical Journal of Edinburgh*, vol. iii, p. 343.)

It now remains to offer my observations on the prevention and cure of the dracunculus. Never was there a disease to which the medical precept, *sublata causa, tollitur morbus*, more distinctly applies than this. The result of the application of this precept at Point Saline, in Grenada, is a manifest exemplification of the means by which this is to be effected, and precludes the necessity for saying more on the subject here. As to the cure of the disease, that is to be accomplished by the destruction of the insect. I used a variety of means, but none effectual, until I had recourse to mercury. Mildly saturating the system with this medicine destroyed the insect. I since then find that this medicine has been long used by others for this purpose. At that time, 1794, I knew no authority for it. Linnæus says, "Infuso mercurii sublimati corrosivi Swietenii, intra dies 20, quæ alias intra 40 educitur" (*Syst. Nat.*, tom. i, p. 2, 1075). In phtiriasis, and other diseases of the *exanthemata viva*, mercury has been long known as an effectual remedy, externally applied; but in dracunculus it is not so; the remedy must pervade the system, in order to destroy the insect or its ova. It is unnecessary to detail the variety of means employed in different countries. They are of doubtful effect, however vaunted of—asafoetida, garlic, the root of angelica, sulphur, &c. &c. Some gentlemen, considering the disease as an inanimate substance, recommend the extraction of it by a painful surgical operation; but the opinion is as irrational as the cure is unnecessarily cruel.

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## FARCY IN THE OX.

By M. MAILLET.

ALTHOUGH, during many years past, bovine pathology has considerably advanced, whether in describing certain affections that are peculiar to the ox, or common to all the domesticated ruminants, as gangrenous coryza, and diseases of the organs of rumination, or whether in relating the peculiarities which certain diseases, more or less known in the horse, present in the ox, as diseases of the lungs, alteration of the blood, rheumatism, &c., it is not difficult to perceive that there yet many chasms in the history of the diseases of cattle. Even the diseases which are most common and most serious in the horse, have been scarcely regarded, much less studied, in cattle, although they are of nearly as frequent occurrence, and for more reasons than one, ought not to be indifferent to the veterinary surgeon.

Among these is farcy, known among the herdsmen of Lower Anjou, by the name of *d'Arboulets*, and which shews itself often enough among the cattle of the country. It attacks indiscriminately young animals, adults, and old ones, and takes on a chronic type in all of them. Confined almost entirely to the extremities, the farcy of cattle, instead of taking on the five forms which it assumes in the horse—*extended enlargements, circumscribed tumours, abscesses, cords, and ulcers*—assumes exclusively those of circumscribed tumours and cords, and, most commonly, the latter. These cords, always indolent, insensible, and somewhat hard, follow the course of the superficial veins of the limbs, particularly the inner face of the fore-arms and the legs, and occasionally, but very rarely, along the neck. They pursue their course as in the horse, to the neighbouring lymphatic ganglions, which often are more or less engorged and indurated, but not painful. In some cases, along the course of these cords, which do not ordinarily exceed the size of a finger, there are circumscribed abscesses, but very frequently they become œdematous or fluctuating in a certain part of their extent: sometimes the œdema is five or six inches in length. It is seldom that these abscesses burst, as in the horse; but if the tumours or cords are cut where they present any softness, a white matter may be squeezed out, inodorous, and of the consistence of bouillée, or, sometimes, of soft cheese. Scarcely any suppuration follows this operation, and the wound is healed in five or six days. New matter, however, is speedily formed, which again gives softness to the cord, and causes it to continue soft, until at length it is

partly re-absorbed, and the remaining enlargement assumes a harder character. In other cases, small encysted abscesses are formed. Oftenest, however, the induration of the cord supervenes without any manifest fluctuation. If an incision is then made along the cord, nothing is found but a lardaceous tissue, very adherent to the skin, or, rather, continuous with it, and nothing escapes but a few drops of blood. The animal always expresses some pain when these incisions are made.

The circumscribed tumours, much less frequent than the cords, usually appear about the knee, on the external face of the forearm, and on the neck. Like the cords, they develop themselves slowly and insensibly—they remain a long time without changing their form or character, and they rarely form themselves into abscesses. If they are cut into, nothing is found in them but a lardaceous tissue, white or grey, and rarely homogeneous. Several cords often surround this tumour, with one of the extremities losing itself in the mass of the tumour. This is peculiarly remarkable about the extremities. These tumours ultimately contain one or more small encysted purulent abscesses.

The progress of the disease is very slow. It may exist during twelve or eighteen months, or more, without the health of the animal being materially changed. Neither the cords nor the tumours necessarily produce lameness; but animals that work, and particularly the limbs which are thus affected, speedily tire. Cows may have both cords and farcy tumours for a considerable time, without the secretion of milk being in the least affected. These animals, however, rarely fatten, and their owners, sooner or later, destroy them; and especially, when a loss of flesh begins to be apparent, and which will go on notwithstanding all they do to prevent it. I have never seen any of these cattle die in consequence of farcy; but when this wasting is confirmed, they are invariably sold to the butcher.

The causes of this farcy are difficult to determine. I have rarely had occasion to suspect that the peculiar locality had any thing to do with it; but it is, perhaps, more frequent in low and humid than in more elevated and drier situations: neither am I able to state whether it is an hereditary disease. It can scarcely be considered as contagious, when it is in comparatively a few cases only that it produces that suppurative matter by means of which the contagion could be communicated.

As in the same disease in the horse, the treatment of farcy is not often successful. Discutients have little or no effect on farcy cords and tumours; and scarifications only tend to the greater enlargement of both of them. Incisions into the fluctuating cords certainly permit the concrete pus which they contain to

escape ; but a fresh quantity is speedily formed, and a new operation rendered necessary. I have never employed the cautery ; perhaps it might have been productive of good effect. As it is, I have never seen either ox or cow radically cured, whatever means had been employed. In certain cases the cords have seemed to disappear for a considerable time, and the tumours have diminished in volume ; but very often there have followed enlargements of the sublingual and inguinal glands, and which have degenerated into a scirrhus or encephaloid tissue.

I have never known that this malady has given rise to any legal disputation ; for the appearances by which it is characterized are too evident, and there is neither proof nor suspicion of its being contagious.

I will conclude by relating a case which lately occurred to me. A heifer, thirty months old, had been affected with *d'Arboulets* for nearly a twelvemonth. I saw her in October 1835. She had, both on the inner and outer face of the cannon-bone, and on the left fore-arm, several hard cords, a little knotty and indolent. There was an enlargement, composed of several little agglomerated tumours, on the knee on the same side. Two farcy cords took their origin from this enlargement, and ascended towards the fore-arm. There was little or no lameness. She was in very good condition, although she had been so long affected by the disease. Several empirics had been to see her, who had punctured the fluctuating cords, and had applied frictions and scarifications to the enlargement of the knee. All these means had not prevented the slow increase of the swellings. Not willing to put the proprietor to new expense, which I was perfectly assured would be useless, I advised him to sell her, which he immediately did.

*Réc. de Méd. Vét., Fevrier 1837.*

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## FARCY IN CATTLE.

*By M. MOUSIS.*

FARCY is frequent in certain districts of France, and but rarely seen in others. It is far more rare in the south than in the north. This difference is occasioned by the difference of climate and of food, and the kind and degree of work.

It is not of so serious a nature in cattle as in the horse ; for ruminants are usually of a more phlegmatic temperament : the treatment will also be more simple.

In the months of June and July, 1826, farcy declared itself in

a very distinct manner, and with an epidemic character, in the cattle that were transporting the Spanish wool.

*June 12th.*—An ox was brought to me six months old, in good condition, but in which indolent swellings of the size of a large nut were seen on the right side of the neck. They were situated between the muscles and the skin, and they were in the form of a chaplet. Other tumours were scattered here and there on different parts of the body.

Two days afterwards a cow was brought aged five or six years, and in the same state of good condition. Within the last ten or twelve days a large tumour had formed on the forehead of that cow, of a considerable thickness, tender, covered with little buttons, and which speedily degenerated into ulcers, insupportably foetid.

On another cow, the tumours had been developed about five days. They were situated on the right side of the belly, and so deep that they could not be perceived unless touched by the finger.

Some days afterwards, two oxen and a cow were attacked. The swellings were chiefly on the head, but sometimes scattered over the whole of the body—they also varied considerably in size. With the exception of these tumours, the animals seemed to be in perfect health. Other animals were afterwards brought in precisely the same state.

The causes to which I attributed the development of this affection, were the frequent suspension of perspiration occasioned by the inclemency of the weather, while at the same time the work was incessant and very severe. All the wool coming from Spain was conveyed from Ordos, on the Spanish frontier, to the first town in France by means of these cattle. They were continually on the mountains, where the temperature varied every instant, and the most violent storms often unexpectedly overtook them while they were covered with perspiration. The storms in June and July 1826 were more than usually frequent on the mountains. The colts and fillies, from a year and a half to three years old, which were usually turned at this time of the year on the high pasture grounds, were all affected with strangles, accompanied by violent and dangerous fevers. In two colts of two years and a half old, and four fillies and a mule of eighteen months, the strangles terminated in glanders, which ran its course with the greatest rapidity, especially in the mule. Other colts got free with a few farcy buds.

Several of the horses were suffocated by an enormous swelling under the throat, and extending up to the parotids. They had received no medical assistance. Among those that were put un-

der my care, I was compelled to have recourse to tracheotomy in two fillies.

To these causes of disease may also be added the new hay and other food which we were compelled to give these animals, and which produced much gastro-intestinal irritation, and, by sympathy, irritation on the skin. It is very common in every part of France for the use of too new hay to produce severe inflammatory diseases, or cutaneous eruptions.

*Treatment.*—Of all the cutaneous diseases which affect our larger quadrupeds, there is no one so formidable or so obstinate as farcy, especially when it has passed into a chronic state; its treatment therefore must vary according to the intensity of the case. The early symptoms of this malady are too often neglected. The inflammatory and febrile state which necessarily precedes the development of the farcy-buttons, might probably have been combatted by a general bleeding. This measure alone might have sufficed to have arrested the progress of the malady; but the owner too often waits until the evil is fully developed before he has recourse to medical aid. Sometimes he even lets it run on to a chronic state. The veterinary surgeon himself too often adopts this waiting, expecting kind of practice.

I found the method of cure sufficiently easy and satisfactory when the disease was promptly attended to. Venesection was always practised when the farcy eruption had begun to appear. Emollient lotions and cataplasms were applied to the tumours. As soon as they fairly pointed they were opened, and dressed with ægyptiacum, and kept from the influence of the atmospheric air by pledgets of tow. At each dressing they were well washed with water acidulated with vinegar. When the hardness of the tumours did not permit me to open them, I dressed them with a stimulating ointment, and they presently began to suppurate. Whatever was the degree of induration which they presented, they always contained pus in the centre. The animals were supplied with good and wholesome food—they usually had barley-meal in their water—their work was proportioned to their strength: all of them had walking exercise, and the wounds were dressed twice in the day.

This treatment, which is simple enough, was successfully employed on some horses and on two oxen that were attacked by this disease, in the month of July 1824.

At this time, six oxen and four cows were radically cured in fifteen days. Two cows resisted these sanative measures two months, but at the expiration of that time they also were quite cured. All these animals were under my observation several years, and they continued perfectly sound.

Having the opportunity of instituting several experiments, I determined that I would satisfy myself with regard to the contagiousness of the disease.

*June 20th, 1826.*—1. Having shaved off the hair in certain places, I applied to the skin of two cows the matter taken from the buttons of other cattle that were farcied. No disease was produced.

2. *June 24th.*—I, with a lancet armed with the virus, punctured each side of the neck of an ox nine or ten years old, and very poor. Not the slightest eruption followed.

3. *July 10th.*—I repeated this experiment on two other cows, but without effect.

4. *July 28th.*—The same experiment was made on an aged mare in tolerable condition. She was punctured in various places, but without success.

5. *Aug. 1st.*—By means of a lancet, I inoculated a lamb and two dogs with the farcy matter, on the inside of the thigh and on the fore-arm. The result was the same as in the other experiments.

To these were added other experiments as to the stabling, and working together of the sound and the diseased. No bad consequence resulted.

It appears, then, that this species of farcy is not contagious, with regard at least to many species of animals.

*Réc. de Méd. Vét., Mars 1837.*

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[These two essays possess much interest—the diseases related in the first had many of the characters of equine farcy: there is considerable similitude to that malady in the cases recorded in the second communication. The identity, however, is doubtful. The farcy diseases, and farcy humours as they are called by many veterinarians, require a more accurate classification than they have yet received. Will some of our correspondents take *this* subject up?—Y.]

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## HISTORY OF A CASE OF PLEURISY WHICH PREVAILED ENZOOTICALLY IN A FLOCK OF SHEEP IN THE DEPARTMENT OF THE LOWER SEINE.

*By M. SERON, M.V.*

I WAS called on the 30th of January, 1836, to a sheep-fold on which some unknown disease had been committing dreadful ravages. On my arrival one of the sheep was dying: I stayed and opened him, and thought that I perceived the cause of death. Of

all the maladies of the sheep, inflammation of the lungs is least understood, and yet very common. It usually appears in the months of January and February. The proprietors and cultivators of this country buy in lean sheep in October, November, and December, in order to fatten and resell them in the course of the succeeding year. They had previously been much neglected and badly fed, and they had been driven from market to market, exposed to the intemperature of the weather. They are now suddenly placed in comfortable sheep-cotes, and have as much as they will eat, and that of stimulating food. Is it astonishing that inflammatory complaints should break out among them?

The cause of the complaint, then, is the state of poverty in which they are bought, and the improvement of condition rapidly and to a great extent, acquired by means of food too abundant and too succulent, and administered without discernment—their confinement in sheep-cotes hot and ill-ventilated, and the emanations from the dung and urine too long left in them.

The *symptoms* are red and injected conjunctiva, hot mouth, accelerated pulse, and laborious breathing—the muzzle of the sheep rests on the side, and the animal makes frequent attempts to get rid of a yellow mucus with which the nostrils are clogged. One symptom is remarkable and always present—namely, great tenderness of the loins. If the animal is pressed on that part, he will often fall suddenly to the ground. The duration of the malady is from twenty-four to thirty hours, and its termination is always fatal, if medical assistance is not had recourse to without delay. The lungs are the chief or only seat of disease. The exterior lobes are those which are ordinarily or alone affected. If they are cut into they are found to be hard, and the knife creaks as it passes through them; and if they are thrown into water, they sink immediately to the bottom. Sometimes it is found in the left lobe alone, but then the whole extent of that lobe is diseased, and the other lobe is perfectly sound\*.

*Treatment.*—This must be of an antiphlogistic character. Venesection should be immediately resorted to, and repeated two or three times if necessary in the course of twenty-four hours. I have bled as often as three times, and in neither instance did I stop the bleeding until the animal began to stagger. I have always succeeded when I have been consulted in an early stage of the disease, and adopted this course. To this were added, after the bleedings were ended, warm drinks in which a little nitre,

\* It is to be lamented that M. Seron has not described more accurately, and in detail, the morbid lesions of this disease. The appearances which he has recorded are plainly those of chronic and not acute inflammation of the lungs.

honey, and gum arabic, were dissolved—acidulated injections into the nose, in order to get rid of the adhesive mucus—emollient injections, and the sparest diet.

The emetic tartar was given in doses of a drachm in the second stage, and I had always reason to be satisfied with it, if I abstained from bleeding afterwards. I had ordered a drachm to be given in two doses to one of the sheep. The shepherd gave the half drachm to this sheep as directed, but without orders, or telling me what he had done, he gave the other half to another sheep that was just beginning to exhibit symptoms of the complaint. I came a little while afterwards, and, seeing this sheep ill, immediately bled it. In an hour afterwards it was dead.

Two months afterwards I attended at the same farm, on account of several sheep being seized with the same complaint.

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## PERFORATION OF THE SMALL INTESTINES BY ASCARIDES LUMBRICOIDES.

*By M. VERET, M.V. at Doullens.*

A POST horse, nine years old, had been, during two years, subject to intermittent colic, and which oftenest attacked him when he was ascending a hill. These colicky pains were usually slight, and disappeared after the administration of linseed-oil and brandy, a bleeding being occasionally had recourse to.

On the 25th of August, 1832, he was put into the diligence; but he had scarcely mounted a steep hill, a league out of town, ere he was seized with colic so violently, that the postilion was obliged to send him back. The pains increased until eight o'clock at night, when he died, notwithstanding the usual bleeding, and the administration of drinks containing æther, &c. His sufferings resembled those of a horse with rupture of the diaphragm. Every part of him seemed occasionally to be stiffened, and then he would grind his teeth, and tremble all over for a minute or more, and then have a short interval of comparative ease. These symptoms, however, were irregular; but the pulse during the whole of the illness was full and strong—the mucous membranes were red—the pains violent, and long continued.

On the following morning, at five o'clock, I opened the animal. On puncturing the abdominal cavity, a strong æthereous odour was perceived, and, on throwing back the abdominal parietes, several ascarides presented themselves, with small parcels of

food, here and there, on the surface of the intestines. The peritoneum was of a red colour, and inclosed a small quantity of liquid of the same hue, and of a strong æthereous smell. It was evidently the medicine that had been administered on the former evening.

After having detached the mass of intestines from the abdominal cavity, I opened the small intestine, commencing at the duodenum. I immediately found some ascarides, whose number increased as I advanced. About four and a half or five feet from the stomach, the intestine was of a vivid rose colour, and I perceived in it a small round aperture, resembling very much the lower orifice of the lachrymal canal. It was double, and communicated with a pouch situated between two folds of the mesentery. This pouch seemed to be of long standing—it was five or six inches long and four wide, and contained worms and indigested food. Its parietes were two lines in thickness, hard, rough, of a pale red colour, and owed their origin to the hypertrophy and induration of the cellular tissue which united the two portions of the mesentery. At the upper part the parietes were thin, and perforated, and there were large spots of ecchymosis on the mesentery in the neighbourhood of the pouch. There were five or six worms in the stomach, and others below the pouch. There was not any morbid lesion in the other intestines.

*Réc. de Méd. Vét., Fevrier 1837.*

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## RETENTION OF MILK IN A COW, OCCASIONED BY THE PRESENCE OF A CALCULUS IN THE CANAL OF THE LEFT POSTERIOR TEAT.

*By M. DUPLÉNNE, V.S.*

ON the 10th of April, 1831, I was desired to look at a cow, five years old, which in preceding years had produced two calves without accident, and on the first of this month had had her third calf. Her milk had been gradually diminishing, and yesterday she became quite dry.

The teats were hot and swelled—the mammillary vessels distended and very apparent—the mouth hot—the eyes red—the pulse hard and accelerated—the breathing also quickened—and her attitude and appearance expressing great suffering.

Rumination had ceased some days—she refused all solid food, and cared little about that which was liquid, except that she would take a little cold water. My first opinion was that she had taken cold, and that the affection of the udder was a symptom of this, rather than a disease of itself.

I abstracted six pounds of blood from the milk veins, and prescribed a decoction of marsh-mallow leaves, linseed, and poppy heads, by the mouth and by injection, with frictions of the populeum ointment on the teats.

11th.—The symptoms unchanged, except that the teats are more swelled. On accidentally touching the udder, I fancied that one of the teats contained a hard substance within it. I introduced a sound, well oiled, into that teat, and it soon came upon a hard body. I endeavoured to detach it, by introducing the end of the sound between it and the side of the canal : but, failing in that, I secured the beast without casting it, and then, while an intelligent assistant dilated the orifice of the teat, I endeavoured to urge it on by compressing the teat behind, and imitating the act of milking, until at length I forced it through the orifice. The milk immediately flowed abundantly, but from that teat alone. The treatment of yesterday was ordered to be pursued.

The calculus was about the size of an ordinary nut, of an oblong form, a yellow colour, and very hard. I crushed it with a hammer, and found that its colour was deeper at the centre than on the outside. It effervesced with sulphuric acid, yellow vapours having a peculiar odour escaping.

During four-and-twenty hours, the milk ran spontaneously through the teat which had been obstructed. The others, on being drawn, yielded a milky fluid mixed with blood. The swelling of the udder gradually diminished. The appetite began to return, and I permitted them to give the animal its ordinary food, after it had been kept six days on gruel. Emollient drinks were still given, and fomentations applied to the teat, from which the scarf-skin peeled quite away.

At the expiration of eight days, the animal appeared to be well, and yielded as much and as good milk as it had been accustomed to yield.

*Mem. de la Soc. Vet. du Calvados, tom. ii, p. 72.*

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## PARACENTESIS ON A HEIFER, THIRTEEN MONTHS OLD.

*By M. CANU, jun.*

I SAW this heifer on the 4th of March, 1831. As long as she was fed with milk, she grew, and was in good condition; but when she was turned to grass, she immediately and rapidly wasted. At length her appetite, diminishing from day to day, altogether ceased. She was now in a state of extreme emaciation—her coat stared—her skin was dry and rough—the pulse small and frequent—the mucous membranes pale, and the muzzle dry—the belly had evidently and rapidly enlarged—the flanks were curiously and incessantly agitated—and, if she was at all hurried, it appeared as if she would be instantly suffocated. The principal cause, however, for which she was brought to me was an enlargement in the region of the umbilicus. I believed from its appearance that it was a hernia, but, on examining it carefully, I found that I could detect a fluctuation through its whole extent: then striking on one side of the abdomen while my hand was pressed against the other side, I was satisfied that the abdomen was filled by a fluid.

I informed the proprietor that the animal was dropsical, and of the probable result of the case, considering the extreme emaciation of the heifer. He entreated me to pursue my own course.

I secured the animal, and, still fearful that there might be some hernia, I resolved to puncture the tumour laterally, as I should not then have much to dread from any protrusion of intestine. A white flaky pus immediately issued. I introduced my finger through the puncture in the integument, and found an opening into the abdomen about an inch in diameter. Pushing my finger into the belly, I could not find the paunch which should have been in this situation, but an enormous quantity of thick, half-coagulated liquid. I then enlarged the opening in the integument, and more than thirty pounds of white inodorous matter, resembling clotted milk mingled with pus, escaped. From time to time I was obliged to introduce my finger into the abdomen to favour its escape. As the abdomen became empty, the paunch descended and could be felt, and the flank, which had been previously rounded, subsided.

At length the respiration became accelerated—the pulse quickened—and the patient all at once staggered and fell. I stopped the discharge, and administered to my patient about a

pint and a half of good cider. She revived—and some hours afterwards I completed the evacuation.

I then filled the sac which the skin had formed with pledgets of tow wetted with spirit, and ordered better food to be given to her: we however proceeded cautiously in this; and after awhile, we gave her small doses of gentian. She rapidly improved, and I left her for fifteen days. When I saw her again, the wound had closed—but a tumour remained about the size of a fist. In six months she was sold at a good price.

*Mem. de la Soc. Vét. du Calvados, tom. ii, p. 92.*

## METEORIZATION IN A FILLY—WITH PUNCTURE OF THE INTESTINE.

*By M. GARCIN, M.V., Hyères.*

ON October 15th, 1823, I was sent for to see a filly eighteen months old, attacked by colic. She had been eating bran and *de la mée*—chopped wheaten straw, and dried lucern, mixed together. She refused her food—stamped—shivered; the pulse was hard; the conjunctival membranes pale and infiltrated, and the belly a little swelled. These symptoms had continued since the morning of the preceding day. Give mucilaginous drinks and emollient injections.

16th.—Greater enlargement of the belly; the animal looks at his flanks—lies down and rolls on his litter—the respiration is accelerated and painful, and the pulse small and hard. Cold mucilaginous drinks in which are given, alternately, ammonia and sulphuric ether.

The meteorization increased during the day, and the respiration became more laborious and painful. When night approached, I abstracted six or seven pounds of blood.

During the nights of the 16th and 17th, the enlargement of the belly and the flanks became enormously extended. The injections had hitherto been returned without any stercoral matter; I therefore now administered an ounce of aloes.

17th.—The mucous membranes had now assumed a violet red colour; the countenance expressed the utmost anxiety; the animal could not be at rest a moment, and every thing presaged the rapid approach of death. It was then that, in despair, I determined to have recourse to paracentesis. When a pupil at the veterinary school at Lyons, I had often seen it attempted, but never with success.

The animal now not being able to stand on its legs, I had it

supported by several assistants, and plunged my trocar into the middle of the right flank. I then withdrew the trocar, and suffered the canula to remain, and in a moment the gas began to rush violently out, and it burned when a candle was brought near to it. In a little while the colicky pains disappeared, and the animal got up and searched for something to eat. The respiration quieted down, and the pulse became more developed.

I suffered the canula to remain in the wound for about two hours, at the expiration of which time I remarked that the gas could no longer be ignited. After having withdrawn the canula, I closed the opening into the flank with a little pledget of tow. The wound began to suppurate in about fifteen days, but it was not until the twentieth day that it perfectly healed.

During the nights of the 17th and 18th, the patient began to void his excrement, but in small quantities, and there were found among it two stercoral pellets as large as a cricket-ball. I was inclined to believe that the presence of these pellets was the principal cause of the indigestion and colic.

The filly gradually returned to her usual food. She remained two years with the same proprietor, and, during that time, there was no return of the colic.

*Réc. de Méd. Vét., Février 1837.*

## PNEUMONIA IN A CALF TWO DAYS OLD.

*By M. SÉON, V.S.*

ALTHOUGH the cattle in Basse Normandie are left in the pastures all the year round, the cows are usually taken up when the time of calving approaches. Sometimes, however, the period of parturition is miscalculated, and the little ones are exposed to all the sufferings and dangers resulting from so sudden and great a change of temperature.

On the 24th of June 1833, I saw a calf dropped in the night of the 22d and 23d in the open field. The herdsman hastened on the morning of the 23d to remove it into a comfortable cow-house, and then, according to their custom, they forced upon it a drink composed of equal parts of barley-water and milk.

On the morning of the 24th I found it in the following state:—It was standing—the flanks agitated—the eyes protruding—the mouth open; the tongue hanging out; uttering a plaintive sound as it breathed; the respirations from 74 to 76 in a minute; the movements of the heart precipitate and violent; to be seen as it beat against the ribs, to be heard at a little distance, and 85 in a minute.

The indication afforded me by these symptoms could not easily be misunderstood. I opened the jugular vein, and abstracted eight ounces of blood. It coagulated almost immediately, and the buffy coat occupied one-third of the glass. The calf lay down very soon afterwards, and drew a long and deep inspiration.

In two hours from that time, the respiration, although quick and laborious, was silent; the mouth closed, and the calf lay down in a natural position. I could only count from 58 to 60 inspirations in the course of a minute, and the beatings of the heart, although still tumultuous, had subsided to 64 or 66. I ordered a very restricted diet, emollient injections, and a second bleeding of six ounces at night, and these were followed by still greater diminution of acute symptoms.

25th.—The animal was much stronger; the calf gradually returned to its natural food, and enjoyed good health, except that it did not attain the size and condition which others from the same mother had done.

*Mém. de la Soc. Vét. du Calvados*, vol. ii, p. 114.

## THE VETERINARIAN, OCTOBER 1, 1837.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

### THE NATIONAL VETERINARY AND AGRICULTURAL SCHOOL AT CUREGHEM-LES-BRUXELLES.

A FRIEND has kindly favoured us with the following sketch of the Brussels school. We should be guilty of much injustice if we did not lay it before our readers. We pretend not to say that it is a perfect outline of what a veterinary school ought to be. Perhaps the courses are a little too numerous and complicated; but it contains much that well deserves the deep consideration of the professors of the different veterinary schools, and of the government of every country. It is founded on that basis on which alone a veterinary school and the improvement of the most important national interests can securely and honourably rest. Veterinary Medicine and Agriculture! they are kindred arts, and each suffers when they are disunited.

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The Session will commence on the 17th of October, but in order to be admitted it will be required that the candidate should undergo an examination with regard to his knowledge of the French language and of elementary mathematics, and produce certificates of prior good conduct.

No pupils will be received after the 1st of November\*.

\* We again repeat that there are several minor faults, there is too much overloading, in this Programme; but, taken all in all, it deserves the deep consideration of the Professors of our Schools, and the Government of our Country.—Y.

### Miscellanea.

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#### A DUCT IN THE PALATE CONNECTED WITH THE SENSES OF SMELL AND TASTE.

THE wonderful acuteness and power of discrimination which many animals exercise in the discovery and selection of their food, have often suggested the existence of new senses, different from those which we possess, and conveying peculiar and unknown powers of perception.

An organ which appears to perform some sensitive function of this kind has been discovered in a great number of quadrupeds by Jacobson\*. In the human skeleton there exists a small perforation in the roof of the mouth, just behind the sockets of the incisor teeth, forming a communication with the under and fore part of the nostrils. This canal is perceptible only in the dried bones; for in the living body it is completely closed by the membrane lining the mouth, which sends a prolongation into it: but in quadrupeds this passage is pervious, even during life, and is sometimes of considerable width. Jacobson found, on examining this structure with attention, that the canal led to two glandular organs of an oblong shape, and inclosed in cartilaginous tubes: each gland has in its centre a cavity which communicates above with the general cavity of the nostrils. These organs lie concealed in a hollow groove beneath the bone, where they are carefully protected from injury; and they receive a great number of nerves and bloodvessels resembling in this respect the organs of the senses. Their structure is the same in all quadrupeds in which they have been examined; but they are largest in the family of the *Rodentia*, and next in that of the *Ruminantia*: in the horse they are very large, but the duct is not pervious; while in carnivorous animals they are on a smaller scale. In monkeys they may still be traced, although extremely small; appearing to form a link in the chain of gradation connecting this tribe with the human race, in whom every vestige of these organs has disappeared, excepting the aperture in the bones already noticed. Any use that can be attributed to these singularly constructed organs must evidently be quite conjectural. The ample supply of nerves which they receive would indicate their performing some sensitive function; and their situation would point them out as fitting them for the appreciation of objects presented to the mouth to be used as food: hence it is probable that the perceptions they convey have a close affinity to those of smell and taste.

*Roget's Bridgewater Treatise*, vol. ii, p. 568.

\* See *Annales du Musée*, vol. xviii, p. 412.

## TIT FOR TAT.

IN the 10th number of *Les Nouveautés Economiques*, there is an extract from the report of a Frenchman who had been in England to purchase horses. He says that out of about a thousand of these animals which he examined, he found 430 in training for the turf, and that he did not see one among them without spavin, splent, bent-hock, his fore-legs too close, contracted feet, curbs, &c. ; and for each of these villanous beasts they asked from 250 to 400 guineas.

He speaks afterwards of some horses which he purchased, and he concludes with the following assertion : “ It is vain that I have searched for a stallion well limbed and of good figure. The union of these qualities is no longer to be found in England, and perhaps may be reckoned among the things that are impossible.”

On the other hand, according to M. de Biel, the English say that the Russians purchase every grey and black horse they meet with, without regarding the blood or the bone, the muscles or the proportions. The Germans look for a good head and a good tail, without regarding blood or bone, muscle or proportion. It is difficult to say what a Frenchman regards—generally nothing ; for he will buy a horse without blood, or bone, or muscle, or colour, or head, or tail, or any proportions at all.

THE TRUE ARTE OF PARING AND SHOOYNG ALL MANNER OF HORSES ; TOGETHER WITH THE SHAPES AND FIGURES OF DYERS SHOES, VERY NECESSARYE FOR DYWERS HORSES. (*Bln deville.*)

¶ *In what poyntes the arte of shooyng doth consist.*

## THE FIRST CHAPTER.

THE art of shooyng consisteth in these poyntes, that is to say, in paryng the horse well, in making the shoe of good stuffe, in well fashioning the webbe thereof and well pearsing the same, in fitting the shooe vnto the horse's foote, in making nayles of good stuffe, and well fashioning of the same ; and, finally, in well dryuing of the sayde nayles, and clenching of the same. But neyther paring nor shooyng is no absolute thing of itselfe, but hath respect vnto the foote or horse (for the shoe is to be fitted to the foote, and not the foote to the shoe), and there be dyuers kinds of horses, both good and badde, requiring great diuersitie as well of paring as shooyng.

*Printed in the year 1566.*

## Obituary.

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ON the 9th ultimo, died Mr. George Moneymment, of Norwich. He succeeded Mr. Stevenson, still remembered as a very able practitioner, and for many years he conducted one of the most extensive veterinary establishments in Norfolk. He is known to the readers of *THE VETERINARIAN*, as the author of a very satisfactory account of a case of rabies in a pony, and as the author of an able essay on the late epidemic, in which he advocated the propriety of bleeding to a limited extent, and laid down certain excellent rules, by the observance of which the practitioner would rarely err in the abstraction of blood. We have reason to know, that, had Mr. Moneymment lived, *THE VETERINARIAN* would often have been enriched by his contributions.

Mr. Moneymment was respected by all to whom he was known, as a good and affectionate husband and father, a sincere and a warm friend, a scientific practitioner, and ardently devoted to the improvement of his profession.

J. S.

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[Will our friends kindly favour us with an account of losses like these, when they occur? The record of departed worth is a duty which we equally owe to those who have laboured in a good cause, and to posterity.—Y.]

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## TO CORRESPONDENTS.

WE did not receive the parcel to which Mr. S. alludes.

Mr. Morton, the able chemical lecturer at the Veterinary College, has kindly analyzed for us the medicine which our Hertfordshire friend sent. It contained a considerable proportion of sulphate of copper, a drug that must be absolutely poisonous in such a case.

We beg to apologize to Mr. Cartwright for not having sooner inserted the following corrections:

In vol. 9 of <i>THE VETERINARIAN</i> ,				
Page	20, line	4, for	fixed,	read
.. 94	.. 32	..	Cross and Jagger	.. Mr. Cross, a Jagger or Carrier
.. 495	.. 5	..	slightly	.. slyly
.. 496	.. 3	..	Mannoir	.. Maunoir
.. 496	.. 16	..	Terron	.. Tenon.

# THE VETERINARIAN.

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## ANIMAL PATHOLOGY.

By Mr. YOUATT.

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### LECTURE XVI.

*Rabies in the Dog.—The Diseases with which it may be confounded.—Rabies in the Horse, Ass, and Mule.*

IT may be useful, ere we proceed to the consideration of rabies in other quadrupeds, to glance at the diseases with which it may be confounded in the dog. Mistakes are here frequently made by the young practitioner, and they are of daily occurrence among those who have paid little attention to canine pathology. Many useful and valuable animals have been destroyed, in whom not one symptom of rabies existed; and groundless and distressing fears, with regard to themselves or those whom they loved, have been a source of intense misery in numerous families. I cannot do better than here refer you to a note in Mr. Blaine's most valuable Treatise on the diseases of the dog. That work will most deservedly find a place in your libraries; for you will recognize in him the first medical writer who had sufficient mental courage to devote himself to the study of the maladies of this interesting and noble animal; and in the volume which he has published you will find the germ of almost all that is useful in canine pathology.

*Rabies and Epilepsy.*—The dog is a very susceptible and irritable animal. Various diseases—difficult teething—distemper—sudden exertion—over-joy—fright, so hasten, or retard, or derange the circulation of the blood through the brain, that there is a temporary loss of sensation and consciousness, and a violent spasmodic action of certain of the voluntary muscles. Suppose a dog to be ranging in the field—employed in the busy pursuit of game, or, occasionally, imagine him to be quiet at home. All at once he starts up, and begins to bark violently—he scampers

over the ground, or he dashes round the room—he runs against every thing in his way, he turns about, and barks and snaps at it—he takes some kind of circular course, until at length he is exhausted, and he falls. Sometimes the limbs are stretched out with tetanic rigidity, at other times they are moving with the utmost velocity, the head dashed again and again on the ground with frightful force—the eyes rolling in their sockets—the teeth gnashing together—the foam thrown from the mouth in every direction—and, all this while, the dog is utterly insensible. This continues a quarter of an hour, half an hour, or during several successive hours, until at length, perfectly exhausted, the spasms cease, and he lies quiet or asleep for awhile, and then slowly regains his consciousness, or awakes only to experience a renewed epileptic attack, or awakes not at all. This is the epilepsy to which the dog, from his superior intellectual development, or general irritability, is subject to a greater degree than any other domesticated animal; and they who know nothing about the matter—who mistake loss of sensation and consciousness for increased mental excitement, cry out that the dog is mad; and they follow him with every weapon of offence, and destroy him if they possibly can, or abandon themselves to unfounded but most distressing terror, if perchance they have been bitten by him during the fit.

*The Difference between these two Affections.*—Now, there is nothing in this that ought to be for one moment confounded with rabies. Epilepsy and rabies are as plainly distinct as any two cerebral affections can possibly be. The one is a perversion, the other a suspension of intellectual power. The one is an unconscious abandonment of muscular action to irresistible instinctive influence: there is method in the madness of the other, and the mind is actively employed in accomplishing its perverted, fearful object. I cannot do better than quote the language of the first scientific observer of this disease:—"There is," says Mr. Blaine, "no rabid symptom whatever that at all resembles a fit, whether in the irritable or in the dumb variety. An epileptic fit is sudden; it completely bewilders the dog, and, after a determinate period, leaves him perfectly sensible, and not at all irritable. In rabies there is no fit, no loss of recollection, no tumbling about wildly in convulsion; neither is there any marked break in the natural irritability attendant on rabies. If a dog in an epileptic fit should be so convulsed as to attempt to bite, it is evidently done without design—his attack is spasmodic—he snaps at any thing, and it is quite as likely to be himself as any thing beside. The irritability and mischievous attempts of the rabid dog have always method with them, and

they evidently result from a mental purpose to do evil. The mad dog has usually a disposition to rove—the distempered one, never.”

*Farther Caution.*—Enteritis and spasmodic colic have occasionally somewhat closely simulated rabies; and I confess that more than once I have for awhile been unable satisfactorily to distinguish between them. There has been the same restlessness, scraping together of the bed, general irritability, intensely anxious look, and the howl has not been very dissimilar. The distinguishing symptoms of each are not, however, slow in developing themselves. If there is much restlessness and alteration, it is evidently with a design to relieve pain, and not from mere fidgettiness, or ill temper, displayed in the attempt to tear the bed to pieces rather than to smooth it. If there is irritability and ill temper, it is exhibited only when the dog is annoyed and disturbed; there is no systematic plan to effect mischief. If there is the intensely anxious look, it is expressive more of pain than anger; it is a depressed supplicating gaze, rather than a fiery ferocious one. And if there is the howl somewhat resembling the rabid one, it is preceded by a whine and a moan never heard in the rabid dog: it has not the prior characteristic bark of irritability or defiance; it is a howl, and not a mingled bark and howl. You may mistake, or be undecided for a little while; but twelve hours will not pass without the different course of the two diseases removing all doubt about the matter. In a disease like this, and involving human as well as quadruped welfare, I trust that you will not think me descending to unnecessary minutiae. I acknowledge my own wanderings when I had but little to guide me in my proper path, and I would warn you against those, the consciousness of the commission of which annoyed and degraded me, at least in my own estimation.

*Rabies in the Horse.*—I will now proceed to the consideration of the symptoms of rabies in other domesticated animals. There is occasional warning of the approach of this disease in the Horse. A mare, belonging to Mr. Karslake, the most furious I ever saw, had, during ten days before the recognition of the disease, been drooping, refusing her food, heaving at the flank, and pawing occasionally. It was plain enough that she was indisposed; but at length the furious fit came upon her, and she destroyed almost every thing in the stable in the course of an hour.

Our excellent friend, the late Mr. Moneymont, had a two years' old colt brought to his establishment. Before he saw it, he asked the owner what was the matter with it. The man replied that “it was taken ill in the afternoon of the preceding day, when it first attracted attention by refusing its food, and throwing itself

down, and rising up again." From such a description, Mr. Moneymment concluded that it was a case of colic ; but when he went into the yard, and saw the pony, and observed his wild and anxious countenance, and his excessive nervous sensibility, he was convinced that something uncommon was amiss with him, but he did not at first suspect the real nature of the case.

The early symptoms of rabies in the horse have not been carefully observed or well recorded. That veterinary surgeon will merit the thanks of the profession, who, having had opportunity to observe, will put his brethren in possession of the first and decisive warnings of the approach of this dreadful malady.

*Usual Character of the Disease.*—In the majority of cases, so far as our records go, there will not often be premonitory symptoms sufficiently decisive to be noticed by the groom. We want the history of a few cases from an experienced pen, and then I am very much disposed to believe that we shall obtain quite sufficient warning of the impending danger. A case is described by Mr. Marshall. He sees not the patient until the case is too plain to be misunderstood by him, although not then comprehended by the attendants ; and he is summoned in a great hurry, because "the old horse is very ill, and has something sticking in his throat." He presses the stablemen on the point whether they had noticed any thing unusual about the horse previous to the attack ; and is told that "the spirits of the animal had been better than usual, that he appeared stronger, and that a lameness under which he had laboured had left him for three or four days." By-and-by came a difficulty in swallowing, and particularly swallowing liquids. The horse, however, was at work until within four hours of his seizure. M. Dupuy gives as full and interesting an account as any that we have of the symptoms and progress of rabies in the horse ; and all that he is enabled to say is, that the animal had been observed not to feed well for several days. Depend upon it there are warnings, and possibly as plain to the practised eye as those of the dog. When you get into practice, have especial regard to this, and help us a little out of our dilemma.

*Early Symptoms.*—The precursor indisposition is seldom observed, but the horse goes out to his usual work, and, for a certain time and distance, performs it as well as he had been accustomed to do ; then he stops all at once, trembles, heaves, paws, staggers, and falls. Almost immediately he rises, drags his load a little farther, and again stops, looks about him, backs, staggers, and falls. This is not a fit of megrims—it is not a sudden determination of blood to the brain, for the horse is not for a single moment insensible. The sooner he is led home the

better, for the progress of the disease is as rapid as the first attack is sudden ; and possibly he will fall twice or thrice before he reaches his stable.

In the great majority of cases, I would say, with very few exceptions, a state of excitation ensues, which is not exceeded by that of the dog under the most fearful form of the malady. There are intervals when, if he had been naturally good tempered, and had been attached to his rider or his groom, he will recognize his former friend, and seek his caresses, and bend on him one of those piteous searching looks which no one can withstand. But there is danger about this. Presently succeeds the paroxysm, without warning and without control ; and there is no safety for him who had previously the completest mastery over the animal.

*Anecdotes.*—I was once attending a rabid horse. The owner would not have him destroyed, under the vain hope that I had mistaken a case of phrenitis for one of rabies, and that the disease might yield to the profuse abstraction of blood, which I had been prevailed on to effect, and the purgative influence of the farina of the croton-nut, with which he had been abundantly supplied in an early stage of the malady. I insisted upon his being slung, so that we were protected from injury from his kicking or plunging. He would bend his gaze upon me as if he would search me through and through, and would prevail on me, if I could, to relieve him from some dreadful evil by which he was threatened. He would then press his head against my bosom, and keep it there a minute or more. All at once, however, the paroxysm would return. He did not attempt to bite me ; but had it not been for the sling, he would have plunged furiously about, and I might have found it difficult to escape.

I had previously attended another horse, which the owner refused to have destroyed, and to which I only consented on condition of the animal being slung. He had been bitten in the near hind leg. When I approached him on that side, he attempted not to bite me, and he could not otherwise injure me ; but he was agitated and trembled, and struggled as well as he could ; and if I merely touched him with my finger, the pulsations were quickened full ten beats in a minute. When I went round to the off side, he permitted me to pat him, and I had to encounter his imploring gaze, and his head was pressed against me—and then presently would come the paroxysm ; but it came on before I could scarcely touch him, when I approached him on the other side.

*The Ferocity of the Rabid Horse.*—These mild cases, however, are exceptions to a general rule—they are few and far between.

The horse is the servant and not the friend of man, and if his companion, yet the oppressed one. In proportion to his bulk he has far less of that portion of the brain with which intelligence is connected—less attachment—less gratitude. He is a noble animal. I am not speaking disparagingly of him; but I am comparing him with—next to man—the most intellectual of all quadrupeds. There is neither the motive for, nor the capability of, that attachment which the dog feels for his master, and therefore, under the influence of this disease, he abandons himself to all its dreadful excitement.

The mare of Mr. Karslake, when the period of incubation had quite passed, forgot her former drooping dispirited state: her respiration was accelerated—her mouth was covered with foam—a violent perspiration covered every part of her, and her screams would cow the stoutest heart. She presently demolished all the wood-work of the stable, and then she was employed in beating to pieces the fragments, no human being having exposed himself to her fury.

The symptoms of the malady of Mr. Moneymen's pony rapidly increased—he bit every thing within his reach, even different parts of his own body. Mr. Marshall's patient was foaming—breathing laboriously—his tail erect—screaming dreadfully at short intervals, striking the ground with his fore feet, and perspiring most profusely; at length he broke the top of his manger, and rushed out of the stall with it hanging to his halter. He made immediately towards the medical attendant, and the spectators who were standing by. They fortunately succeeded in getting out of his way, and he turned into the next stall, and dropped and died.

A young veterinary friend of mine very incautiously and fool-hardily attempted to ball a rabid horse. The animal had previously shewn himself to be dangerous, and had slightly bitten a person who gave him a ball on the preceding evening; and now he seized the young student's hand, and lifted him from the ground, and shook him, as a terrier would shake a rat. It was with the greatest difficulty, and not until the grooms had attacked the ferocious animal with their pitch-forks, that they could compel him to relinquish his hold; and, even then, not before he had bitten his victim to the bone, and torn almost the whole of the flesh away from the upper and lower surfaces of the hand\*.

*Treachery.*—There is also in the horse, whose affection for his owner is so easily and so often transferred, a degree of treachery

\* In the Museum of the Veterinary School at Alfort, is the lower jaw of a rabid horse, which was fractured in his violent attempt to do mischief.

which we rarely see in the nobler and more intellectual dog. A horse that had shewn symptoms of great ferocity was standing in the corner of his box, with a heaving flank, and with every muscle quivering from the degree of excitement under which he laboured, when a groom, presuming on the former obedience of the animal, would venture in, and endeavour to put a headstall upon him. Neither the master nor myself could persuade him to the contrary. I was sure of mischief, for I marked the ear fairly lying upon the neck, and I could see the backward glance of the eye; I therefore armed myself with a heavy twitch stick that was at hand, and climbed into the manger of the next box. The man had not advanced two steps into the box before I could see the shifting position of the fore feet, and the preparation to spring upon his victim; and he would have sprung upon him, but my weapon fell with all the force I could urge upon his head, and he dropped: the man escaped, but the brute was up again in an instant, and we trembled lest the partition of his box would yield to his violence, and he would realize the graphic description of Mr. Blaine, when he speaks of the rabid horse as “levelling every thing before him, himself sweating, and snorting, and foaming amidst the ruins.”

*Biting himself.*—I have had occasion more than once to witness the evident pain of the bitten part, and the manner in which the horse in the intervals of his paroxysms employs himself in licking and gnawing the cicatrix. There is an account of one horse that had been bitten in the chest, and he, not in the intervals between the exacerbation, but when the paroxysm was most violent, would bite and tear himself until the breast was shockingly mangled, and the blood flowed from it in a stream.

*Hydrophobia.*—The most interesting and satisfactory symptom is the evident dread of water, and the impossibility to swallow any considerable quantity, which exists in the decided majority of cases. Professor Dupuy gives an account of this very much to our purpose. “A rabid horse was confined in one of the sick boxes. His food was thrown to him through an opening over the door, and a bucket was suspended from the door, and supplied with water by means of a copper tube. As soon as he heard the water falling into the pail, he fell into violent convulsions, seized the tube, and crushed it to pieces. When the water in his bucket was agitated, the convulsions were renewed. He would occasionally approach the bucket as if he wished to drink, and then, after agitating the water for an instant, he would fall on his litter, uttering a hoarse cry; but he would rise again almost immediately. These symptoms were dreadfully increased if water was thrown upon his head. He would then endeavour to seize it as it fell, and bite with fury

at every thing within his reach, his whole frame being dreadfully spasmed."

*Progress of the Disease.*—As the disease progresses, not only is the animal rapidly debilitated, but there is the peculiar staggering gait which we have observed in the dog, referrible to evident loss of power in the muscles of the lumbar region. I once saw a mare sitting on her haunches and unable to rise, yet using her fore feet with the utmost fury, and suffering no one to come within her reach. She too would sometimes plunge her muzzle into the offered pail, but immediately withdraw it in evident terror, while every limb trembled. At other times the lowering of the pail would affright her, and she would fall on her side and furiously struggle. Although this symptom is not often observed in the dog, it is a satisfactory identification of the disease, when it is so frequently seen in the horse, and so invariably in the human being.

The earliest and perhaps the most decisive symptom of the near approach of rabies in the horse, is a spasmodic movement of the upper lip, particularly of the angles of the lip. Close following on this, or contemporaneous with it, is the depressed and anxious countenance, and inquiring gaze, suddenly however lighted up and becoming fierce and menacing, from some unknown cause, or at the approach of a stranger. From time to time different parts of the frame—the eyes, the jaws, particular limbs—will be convulsed; the eye will occasionally wander after some imaginary object, and the horse will snap again and again at that which has no real existence. Then will come the irrepressible desire to bite the attendants—the animals within its reach; to this will succeed the demolition of the rack—the manger—the whole furniture of the stable—accompanied by the peculiar dread of water which has been already described. Towards the close of the affair there is generally paralysis, principally of or generally confined to the loins and the hinder extremities, or involving those organs which derive their nervous influence from this portion of the spinal cord; hence the distressing tenesmus which is occasionally seen.

*Rabies in the Ass.*—My friend Mr. Simonds described to me a case of this disease in an ass which he accidentally had opportunity of observing. There was the evident pain in the bitten part—the leg. The wound had been carefully dressed and covered, but he was continually endeavouring to get at it and bite it, although carefully muzzled in order to prevent him. He would parade the box in which he was placed with his nostrils expanded, and his chest heaving, and his eyes glaring; biting at imaginary objects, and at every thing within his reach. Every now

and then would come a violent exacerbation of the symptoms; the heaving of the flanks would increase, and the fiery brightness of the eye, and the attempt to do mischief. His walk would be quickened—he would snap at many an imaginary object; the fæces which he passed not at any other time, would be ejected from him with violence; and then, his tail quivering, and his eyes distorted, and uttering fearful cries, a kind of tetanic rigidity would steal over him. This would yield, and he would fall: a violent struggle would commence, but which subsided in a few minutes; and he would rise to resume his wonted walk, and his watching for opportunity to do mischief.

*The Ferocity of the Animal.*—There is an account on record of a gentleman, his wife, and brother, walking near Huddersfield, when they were attacked by an ass, which seized and tore the lady's dress. The animal was instantly knocked down with a stone by the gentleman, and the blows were repeated, aided by the brother, until the ass appeared dying. They then dragged him down a steep bank, and left him. They had not proceeded far, however, when the ass was once more on his legs, and in pursuit of the party, who, to save themselves, climbed over a low wall. They had scarcely effected this when he came up with them, and endeavoured also to clear the wall; but he was again fortunately arrested by another blow on the forehead with a stone, and he fell to rise no more. It was afterwards ascertained that he had been bitten by a rabid dog.

*Rabies in the Mule.*—I have had opportunity to witness only the later stages of this complaint in the mule; but in the third volume of that useful work, "*Instructions et Observations sur les Maladies des Animaux Domestiques*," by Messrs. Chabert, Flandrin, and Huzard, I find a detailed account of the symptoms of rabies in this animal, a translation of which I will read to you. "On the 2d of February, 1780, a rabid dog bit a mule five years old, travelling on the road from Lodève to Milhaud, and belonging to the Consul of Porlages. The dog was immediately destroyed by the muleteers. The wounds were inflicted on the chest, and both thighs and hind legs. On the 23d of March, 49 days afterwards, the mule was observed to be very much out of spirits, and to refuse its food. Its master seeing it in that state, ordered two of his people to assist in giving him a drink composed of wine and theriaca—the latter being a strange compound of cummin seed, and laurel-berries, and the leaves of the water germander, and the Virginian snake-root, and cloves, and opium, and honey, and which was administered by the peasants of that country for almost every disease to which

the domesticated animals are subject ;—but they could not force upon him a drop of the medicament. The moment he was loosened from the cord with which they had raised his head, he darted on the men, and bit all three of them—one in the thumb, another in the hand, and the third in the arm.

“He then remained tranquil for the space of two hours, when he was seized with a second paroxysm, and attacked two mules which stood one on each side of him (for no one had suspected the real nature of the disease), and he bit them on the shoulders, on the breast, and on the fore legs. He had several other paroxysms during the day.

“I was called in,” says M. Thorel, the veterinary surgeon who relates the case, “on the morning of the 24th. On entering the stable I found him trembling all over, and with his eyes red and glaring. On passing my hand under his neck, and pressing on the trachea and œsophagus, I found a sudden spasmodic contraction of these parts and the neighbouring muscles, as if the pressure of my hand had given pain. I offered him some water : he turned away his head, but without any expression of horror. He immediately however became most dreadfully excited ; he bit his manger—he tore down the sticks of his rack—he fell—he immediately leaped up again—he breathed with difficulty—he trembled in every limb—his coat stood on end, and then he fell in one universal convulsion. That, however, presently ceased, and he arose, and dashed round the stable, kicking in every direction. He did not void any dung, but he was covered with a cold perspiration : he uttered the most dreadful cries every moment ; he darted at those who stood at the window of the stable. He became more and more agitated, and at length he fell once more with a groan that seemed to announce the departure of life.

“On the 25th, in the morning, he was still more dreadfully excited ; and in addition to the symptoms already described, there was a discharge of bloody spume from his nostrils, and his mouth was covered with foam. In one of these paroxysms he died.

“On comparing all these symptoms, I could have no doubt that it was a case of rabies. I ordered the mule to be buried at the prescribed depth. The sanitary laws require that every animal that dies of a contagious disease shall be buried at a certain depth. I then advised those who had been bitten to go to Montpellier, where they would be properly treated ; and I wished that the mules should be preserved, in order that we might see what would be the result ; but so great was the terror of the inhabitants of that and the neighbouring villages, that the intendant of the province ordered that they should be destroyed. I have never

heard that the men who were bitten were subsequently attacked, and therefore conclude that the precautionary measures which were taken with regard to them were successful.”

In the case which I saw, the animal was quite as much excited and disposed to do mischief as in this. His paroxysms of violence recurred almost every hour, and could be produced in a moment by the sound of falling water, or by a small portion being thrown upon the animal. M. Thorel says that the mule turned away when the water was presented to him, yet shewing no dread of it, but immediately afterwards one of those horrible paroxysms of fury came upon him. In the case which I saw, the connexion of the two circumstances could not for a moment be mistaken. The forced gulping effort with which the swallowing of a small portion was effected, and the strange and frightful contraction of the muscles of the face and the expression of the countenance, I shall never forget.

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## ACUTE GLANDERS FOLLOWING THE BITE OF A RABID DOG.

*By M. DAMALIX, M.V., 2d Reg. of Dragoons.*

IN the beginning of last July there was a report at Neuf-Brisac that a mad dog was traversing that part of the country, and had already bitten several men and animals. On the 8th of the same month, at five o'clock in the morning, a poulterer of Wolfckansheim, was travelling to Colmar, when he was attacked by this dog, which, not being able to leap into the cart and fall upon the master, bit the horse in the left jaw, and then fled precipitately. The poulterer, sadly frightened, ran back to the village, half a mile distant, and summoned some of his neighbours, who assisted him in leading the horse home.

There were two wounds on the convex surface of the left jaw, both of them penetrating the alveolo-labial (buccinator) muscle, near the interdental spaces and the masseter. The buccal membrane was perforated, and one of the branches of the glosso-facialis lacerated, causing considerable hemorrhage. After having excised several portions of the torn integument, I applied the cautery very deeply, thus arresting the hemorrhage, and attempting to destroy the surface that had come in contact with the empoisoned tooth of the dog. The horse was afterwards physicked, and the wounds properly dressed; and on the 20th the wounds were healed, and the horse sent to his accustomed work.

During the next five days he was slow and dull at his work, and several times, as the proprietor afterwards told me, he refused to proceed, or to obey the intimations of the whip,—a thing which he had never done before.

On the 25th I was sent for again to Wolffeckansheim. The wounds had on the preceding evening spontaneously re-opened, and an ichorous and fetid pus ran from them. To this succeeded pyalism, loss of appetite, vague inquietudes, and such a determination to bite, and especially his master, that neither he nor his children dared to enter the stable again during the life of the animal. I cleaned the wound, and bathed it with a decoction of wild roses, mixed with honey and vinegar; and at 11 o'clock, there being considerable enlargement between the jaws, and the conjunctival and pituitary membranes being inflamed, I bled him copiously, and ordered him proper cooling drinks.

26th.—There is slight trismus, and the wounds are livid and fungous. Apply calcined alum to them, and camphorated liniment over the head generally.

27th.—The trismus has disappeared, and he eats some bits of hay which are offered to him, but after slight mastication he drops them from his mouth. A little white water was then given him to drink, but the difficulty and pain which he had in swallowing the fluid, plainly indicated a constriction of the throat which prevented deglutition. The wounds are looking better. Apply more of the alum.

28th.—The horse is tranquil, the general enlargement of the channel between the jaws has subsided, but there remains a large gland, adherent and tender, near the angle of the left jaw. There is also discharge from the left nostril, consisting of thick pus, with some sanious fluid. Dress the wounds as before—inject into the nostrils soothing fumigations. Towards evening I remarked the rapidly increasing blue colour of the nasal membrane.

29th.—The discharge was now in the highest degree offensive; the pituitary membrane was sphacelated at its inferior part, and above I remarked numerous ulcers, some of which perforated the cartilaginous septum. The wounds were almost healed. I endeavoured to prevail on the proprietor to destroy the horse; but on his refusal I obtained an order from the mayor that it should be done. I regret that my occupations did not permit me to be present at the post-mortem examination of the animal.

The acute glanders which so plainly existed in this horse, was it the result of or connected with any rabid reaction? or may it be traced to the irritation which then existed in the lymphatic ganglions and the other part of the head?

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This case is curious in several points of view. The horse, although his cheek is deeply lacerated by a rabid dog, does not exhibit any symptom of rabies during the whole time of treatment, nor during the eight days which followed the complete cicatrization of the wounds. It was not until the expiration of this time that the wounds re-opened, and some symptoms of this dreadful disease presented themselves: viz. disposition to bite, the refusal of fluids, and the impossibility to swallow. The profound cauterization employed by M. Dalimax appears to have prevented the farther development of the malady.—*Fr. Editor.*

This is an important case. It is inserted now, in connexion with the detail of the symptoms of rabies in the horse, and it will be more than once referred to hereafter.—Y.

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## THE COMPARATIVE EFFECT OF THE ACTUAL CAUTERY AND THE SETON.

*By* NIMROD.

Dear Sir,

OCCUPATIONS, partly in pleasure and partly otherwise, have prevented my having had it in my power to continue my contributions to your last three Numbers; but confident that every *atom* that may contribute to increase the treasury of useful knowledge you are so successfully endeavouring to accumulate, will not be altogether unacceptable to you, I venture now to offer my opinion on the relative effects of the actual cautery and the seton in operative veterinary surgery. It is fit, however, that I should preface my remarks by stating, that as regards the latter I am little better than a theorist; and thinking, we are told, is far from knowing the truth. Still, as the old gentlemen of Terence says, “nothing affecting humanity is foreign to him,” so nothing that relates to the sufferings of the brute race—the horse especially—is indifferent to me. I can assure you I have *thought* much on the subject before me. Without entering at all, then, into the personal controversy which it has, and was likely to have, produced in the profession—although considering the nature of the weapons at command, *red-hot iron on one side, and cold steel on the other*, little mischief has ensued—I will submit my sentiments and opinions to the candid consideration of your readers.

Perhaps few persons have had occasion—and I reflect on the circumstance with pleasure—to fire so small a number of horses as I have had, considering that I have possessed certainly not

less than a hundred hunters, besides hacks and harness horses. I attribute this to several causes:—First, to having generally purchased young and sound horses; secondly, to having had an eye to a certain form of leg, particularly in hunters—flat, short in the cannon, and with oblique pasterns, and a little over-kneed when I could get them; thirdly, to having, when it was possible in chase, dismounted, rather than take a drop-leap on to very hard ground, a stony road especially, which a natural activity enabled me to do, without losing much time; and, lastly, to what may be called luck. In fact, my account of “breaking down” amounts but to two hunters and one hack, a thorough-bred mare, which, strange to say, broke down in both her hinder legs at the same instant, whilst cantering at the rate of about ten miles an hour on a good turnpike road. Neither can I recollect having had more than six horses of any description fired for any sort of disease. Still my experience of this useful and, I fear, indispensable operation in the studs of my neighbours and acquaintance has been very considerable indeed; although I cannot say this of the seton, which, as far as I have witnessed or availed myself of its operation, has been confined to the eye or the chest as a mere counter-irritant or depletory. Nevertheless, being always willing to listen to the still small voice of reason, I have read the arguments advanced on the question of the comparative merits and effects of the two means of operation, and their results, with much attention and interest; although, as I have before said, I offer my opinions upon them with reserve; and I am sure you will commend me for this. Experience has taught us secrets which the genius of a Plato or a Demosthenes or an Aristotle never could have divined; but unprovided with that, and also its handmaid, theory, he must be a bold man, or rather a daring impostor, who ventures to do otherwise.

The first horse I ever had fired was with the hope of obtaining a good hunter for a small sum—a practice I soon discontinued,—provided I could cure him of his lameness from a deeply-seated bone spavin. He was *not superficially* fired, but still the effect was nothing. In another case, I remember recommending a friend to have his horse fired for bone spavin, but the lameness was not removed. These failures much shook, if not nearly destroyed, all my dependence on the actual cautery for the cure of bone spavins, unless in their very incipient state. In cases of curbs I found firing infallible, as far as experience in my own and other stables has gone, that is to say, in those cases which have been taken in time; but I also recollect a few instances of curbs not yielding to fire, nor any other remedy (the seton I of course exclude) that I have seen applied to them. Lameness

from them would occasionally recur, disappearing from rest, and the cause of this, the not having applied remedies in due time.

The second instance, produced from my own stable, brings me at once into one of the most interesting, I might almost add startling, points of the present controversy ; namely, the question, whether or not an artificial bandage be one of the results of firing ? stoutly denied by Mr. C. Spooner, great authority, I admit. My case is this :—

In 1803, whilst residing at Bilton Hall, in Warwickshire—once the residence of Addison,—I was fortunate in witnessing the splendid run the great John Warde's hounds had that year from Winnick Warren, which, no doubt, Earl Spencer remembers, for his Lordship, when Lord Althorp, was one of the few who saw its glorious finish. But it had near been the finish of one of the two horses I had out that day, as I found him, on my road home, in a state of great distress, and in the wildest parts of Northamptonshire. Proper measures having been adopted by my groom when he got home, his life was saved ; but in about a week afterwards, one of his hind legs filled to a great extent ; pus formed in due time in the inside of the thigh, not far from the sheath, and the substance at length broke, the discharge being very great. As may be supposed, measures were taken to reduce the size of the limb, by keeping a tent in the opening ; physic was given ; and all this would, no doubt, have been effectual ; but, being a young hand in those days, I submitted to the advice of my groom, which was, *to blister*, and a leg full as big as two was the result. In fact, the lion was roused with a vengeance, and all our attempts to appease him were in vain. At the end of six months, the limb remained nearly in *statu quo*, walking down, as grooms say, with exercise ; but by the next morning quite as big as ever, although all external heat had disappeared. Now, what was to be done ? “ Ned,” said I to my groom ; “ this horse cost me a good deal of money, and we must doctor him ourselves no longer. I will send him up to Mr. Field to-morrow.”

Now, I am sorry I have not Mr. Field's letter to produce, but I perfectly recollect its purport after his having seen the horse. It was to say, that all the leg wanted was an artificial bandage, or *laced stocking*—and I well remember that term—to brace up the parts which we had so over-distended by the imprudent use of the blister ; and to give them their tone again ; but which could only be done by firing the leg from top to bottom. This was done, and with the very best effect. Although the damaged leg was never *quite* so fine as its fellow, it was very nearly so ; and the horse stood sound as a hunter, and afterwards in

harness. But enough on this subject—the bandage—for the present. The occurrence, however, was not without its benefit, for it cured me of trusting to “Ned,” or further home-made doctoring. We were both young, and, as is too often the case at that period of life, in the warmth of our imagination little disposed to advert patiently to causes and effects. In fact, the gradational means by which disease is to be obliterated are at that time little thought of; the mind is fixed upon the cure which is at once anticipated, as was the case here, but it was “no go.”

Still the mention of Ned\*, which is made with regard and respect in recollection of nine years’ faithful and valuable service, brings me at once to that part of my subject on which it appears some diversity of opinion prevails—I mean deep firing. Ned was brought up in the stables of that much renowned sportsman and horseman, the late John Lockley, who being, no doubt, of opinion that the *μαγιστον μαθημα* (as Plato calls the chief science) of the doctoring art was vested in himself, would admit neither farrier nor veterinary surgeon into his stables, nor a doctor into his house—in fact, his own life fell a sacrifice to the prejudices he entertained†. Consequently he operated on his own horses, and was very fond of applying the irons. But how did he apply them? Did he, as elegantly expressed by Mr. Spooner, attempt to exhibit the “adroitness with which he delineated the feather, and the star, and the crescent on the integument of his suffering patient?” Not he, indeed; neither am I able to say how he became acquainted with the geography of the parts which he travelled over, their anatomy, and so forth. But this I am enabled to say, that the awful scorings and deep lesions from the iron on horses so valuable as his, were the subject of much surprise amongst his brother sportsmen, but by no means discomposing to himself. “I must make my horses sound,” he would say, “to carry fifteen stone, and this will never be done, when the injury has been extensive, by what is called neat firing, performed apparently by a knitting-needle.” Hundreds of sportsmen in the midland counties, now alive, can vouch for what I am relating, and must remember, amongst many others, that celebrated hunter, *Ready*, whose legs he had so disfigured, but who so many years distinguished himself under Mr. Hanford, a much heavier man than himself, and who gave him three hundred gui-

\* This excellent servant, whose name is Brainsford, was for many years landlord of the head inn at Painswick, between Cheltenham and Bath, and I hope he is still in the same situation.

† Having had a fall with hounds in Staffordshire, in his 80th year, which produced inward bleeding, he died within twenty-four hours, having declined medical aid until it was too late.

neas for this horse, scored and disfigured as he was. Hence, then, did I imbibe the notion, that, where the mischief was serious, nothing short of this deep and broad firing was to be depended upon; and I am ready to admit, that the only instance in which I had recourse to it, which was in the case of a very bad leg, operated upon by Mr. Turner, the elder, at Croydon, the cure was complete.

There was another very celebrated sportsman in Warwickshire, who, although he did not himself operate on his horses, had, from living much with Mr. Lockley, so far imbibed his ideas of the inutility of half measures in operative surgery, that some of his horses' legs were sadly disfigured by the iron. I remember one especial instance in a thorough-bred hunter of his, called Toby. He was afflicted with a severe thorough-pin, which rendered him useless. Having had him deeply fired by Shepherd, of Stratford-on-Avon (not a veterinary surgeon, but an excellent operator), he immediately applied a blister, so strongly impregnated with corrosive sublimate as to have caused sloughings so great as to eradicate all traces of the iron, and to leave a bald place, as smooth as the palm of a man's hand. The cure, however, was complete, and he rode the horse many years afterwards. Corrosive sublimate was much used for strains, as well as spavins, &c. in my younger days, and although it blemished by destroying the hair, was found to be effective.

Oh that so noble an animal as the horse could be made available to all the purposes required of him, and which will, from this time forth be required of him, without putting him to the torture requisite to cure him of those disorders and accidents which man, not he himself, subjects him to! As this, however, is not on the cards, let us look dispassionately into the nature and effects of the remedies employed, and, when operative, the relative amount of torture that they produce.

Although my reading has informed me that the application of the actual cautery, or red-hot iron, has been the practice of surgeons to the human race in many parts of the world, and especially among the Japanese, whose whole art of physic once lay in the choice of places proper to be burnt; still I think the firmest compound of blood, bone, and nerve, in the shape of an intelligent human being, if bound hand and foot, and seeing a man approach him with a red-hot iron in his hand, about to apply it to his flesh, would utter such piercing cries as might shake the nerves and abash the confidence of the most practised operator in the country. Such, however, is the situation of the horse when about to undergo this operation, with only this difference. Inasmuch as Providence "tempers the winds to the

shorn lamb," so is he relieved from the effect of the mind on the body, and the pain caused from the fire and its consequences is the whole amount of his suffering. And, strange to say, this suffering does not appear to be to the extent we should imagine it to be, nor any thing approaching to it—in some measure I admit accounted for by a diversion of feeling to the parts confined by the twitch and cords by which the animal is made secure. It would be endless were I to recount the instances I have witnessed leading to this conclusion, but I will recapitulate the last. It was the case of the same horse Mr. Turner operated upon at Croydon, which was fired two or three years afterwards, on the opposite leg, by Mr. Peacock, of Basingstoke.

Apprehensive that, from his high courage—indeed, I may say bad temper—that some accident might occur, and also with a view to see that the operation was not superficially performed, I rode to Basingstoke to witness it. To my surprise, I found my old favourite horse standing perfectly quiet during this apparently horrible process, with merely his other fore leg buckled up, and a twitch on his nose. I do not, however, stop here. The moment he was released, and his head turned towards home, he squeaked and leaped, and very nearly escaped out of my servant's hand. Neither must I even stop here. Although the operation was a severe one—the injury being a severe one—he appeared in nowise to regard it, not even pointing out the foot, or shewing any signs of suffering afterwards, although, as I shall presently shew, exceedingly impatient under the effects of a comparatively milk-and-water treatment. On the contrary, on the third day after the operation, he took a most extraordinary leap out of the window of his box, and joined Mr. Chute's hounds, being nearly the death of some of them, an account of which appeared in the pages of the *Sporting Magazine*.

Now, how is this to be accounted for? Here is a horse of a decidedly irritable temper—so much so that the sight of an old woman in a red cloak would throw him into a profuse sweat, and who, when a little stimulating spirit was rubbed into his coronet, after hunting, in relief of his feet, which were always rather queer, would paw till he nearly pawed up his stall, and was obliged to be beaten to make him desist; who, when blistered, would have torn the flesh by mouthfuls if he could have got at it; here is a horse, I say, that exhibited such sensitiveness under circumstances which would scarcely affect the feeling or temper of a petted child, appearing totally regardless of the effects of a red hot iron penetrating his flesh in at least twenty directions.

Again:—About the same period, being on my road to the town of Reading, I saw, on my approach to a blacksmith's house,

not two miles from my own, a horse tied by the head to a wall, and a dense cloud of smoke issuing from—as appeared to me—his back. Now I shudder as I state whence this smoke proceeded. The brute in human form was actually endeavouring to consume, by fire, a fleshy excrescence of at least half a pound weight, the effect of a long-neglected fistula, and which, no doubt, he would have done, had I not passed at the moment, and threatened to lay an information against him if he proceeded. And how did the animal endure the apparently excessive torture to which he was put? My answer is, I had no criterion by which I could estimate the amount of his suffering; but I can state the fact, that he had a twitch on his nose, but nothing else to confine him; and he stood as quiet as a living animal could stand. I have a witness of this transaction now in my presence, who properly compares it to the frying of a piece of meat on a strong coal fire, or rather to a slice of bacon on a gridiron, previous to its creating a blaze.

Now, my good sir, I can imagine what has been passing within your breast whilst perusing my statement of these facts. I can fancy your saying to yourself “I am mistaken in this man: I hitherto believed that *Nimrod* was of a humane disposition, and, above all things, would not be an advocate of inflicting unnecessary pain on his favourite animal, the horse.” To this my reply would be—First, I have only stated facts; secondly, as we have no power over ourselves to make us believe this to be that, or that to be this, I merely state, that the impression on my mind, with respect to the pain inflicted on horses by the mere application of the hot iron—and I here speak from experience resulting from having been present at some scores of such operations—is, that it is not nearly to the amount to which our imagination naturally raises it; and, also that it is my opinion, that the majority of horses suffer as much, if not more, from severe blistering than they do from the actual cautery. Inexplicable as this presumed fact is to me, I hesitate not in presuming it; and, moreover, it would appear that, independently of after-suffering, it matters little how deep the lesions are made when once the skin is burnt, as there, we know, lies the principal organs of sensation—or, as your President expresses himself, “there is the most sensitive part of the frame, its nerves being the guards placed by nature to warn the animal of danger.” I could almost persuade myself, indeed, that the horse partakes somewhat of the salamandrine nature, as regards the power of fire in inflicting pain on him. How many times have I seen the lampas burnt out of his mouth, and his beginning to eat hard hay or corn in five minutes afterwards, as if nothing had happened!

I wish, however, it were possible to invent a pathometer to ascertain the degrees of his suffering; but, alas! that wish is a vain one. Still let us anticipate its amount, and be merciful to him. "It is excellent," says an elegant writer, "to have a giant's strength, but tyrannous to use it like a giant;" and this may be applied to the state of a horse in the power of a man with a red iron in his hand.

[To be continued.]

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### LETTERS TO A STUDENT.—No. III.

By A. B.

#### ERRORS OF INQUIRY (CONTINUED).

WE are rarely satisfied with an account of any disease unless it shews the cause; and very often we reject or oppose a remedy, because there is no explanation of the mode in which it operates, or because the explanation does not please us. Instead of putting the matter to experiment, we put it to argument. Hypotheses are arrayed against theories, and theories against hypotheses; and the debate ends when the parties get tired, oftener than when the subject is settled.

Much of all long discussions may be attributed to debility and to ignorance, and to the *speaking-evil*, a malady which makes men talk, though they have nothing to say. Some, like Professor Wilson, &c., of the Edinburgh Veterinary College, argue without knowing what they want to prove. They seem to think it their duty to be talking. They must be "frankly confessing," or "freely admitting," which, when there is any meaning, generally signifies, basely denying or meanly concealing. Give yourself no trouble with these fellows. Their writings are not worth reading, their arguments not worth hearing. You may as well speak to the wind. They have no sense: the only way to convince them is to thrash them; but they are seldom worth a thrashing.

Some inquirers deal greatly in causes. Among these you will find debility and ignorance in abundance. They form a numerous class. To some, nothing is clear till the cause be discovered; some will deny the existence of a disease, unless you tell them what produced it; and some will deny that a remedy has any power, if you cannot explain how it operates. When the truth is irresistibly evident, they encumber it with a theory. They will find the cause, and tell you its mode of action. I am

loath to pass any general censure upon this class. They desire to inquire, and might be useful, if they knew how to set about it. In our profession, there are few able to direct or to suggest inquiry. The majority speak and act as if inquiry consisted, first, in making a supposition, and then in maintaining it by other suppositions. Of all this you have sufficient illustration in last VETERINARIAN. In August, Mr. Dick declared that Mr. Spooner had mistaken a normal appearance in the hock joint for an ulceration in it. Instead of examining a dozen of healthy hocks, and telling us the result, Mr. Spooner proceeds to argue the matter. He supposes a bruise to occur, where it cannot possibly occur; and afterwards he announces change upon change, as if he had actually seen them every one.

You may remind people who reason in this way, that hypothesis is not to be proved by hypothesis; that the proper way of settling the subject is to appeal to experiment, or to inspection. The answer seldom varies; it is replied, "Why, yes; an experiment would certainly be the best way of deciding the matter; experiments, I frankly confess, are all very well; but, I pray you, give me leave for a moment; I would humbly, and with due deference, contend,"—and so forth, the same story over again, without aim or sense.

Now, let me tell you that which has been long known. When you wish to ascertain what is or would be the effect of a cause, an experiment is not merely the *best*, it is the *only* mode by which it can be known, or by which any hypothesis can be either proved or refuted. Experience, which is nothing but experiments already made, will often serve the turn, as well as any you could think of making.

Discussion has but three objects. If the disputants neither suggest, nor direct, nor state the result of inquiry, depend upon it they are merely conjecturing. A man will sometimes ask a question which never occurred to yourself: a positive answer would settle an important point. This is what I mean by suggesting inquiry.

To make inquiry is to make experiments, or to use experience. This requires more capacity than is common to all men. One will be told that contraction is supposed to be the cause of grogginess: he will reply, "Very well; I dare say it is, for I often see them go together." Another will not agree to that, for he often sees them apart. A third will say, "Let me try it." Of the three, the last alone is capable of making inquiry. He will put the subject to experiment, excluding every other agent, or testing its influence alone and in combination.

But you cannot always make the requisite experiment, and

you need not. Look among your patients. You may find the supposed cause in operation on more than one of them, and you have only to watch the result. It is by connecting cause with effect in this way that experience becomes valuable. It will make you a skillful practitioner, and a skillful reasoner; but you must learn how to do this. Without knowing the objects and limits of inquiry, you can never learn to make or to direct it. You cannot tell what experiments should be made; nor can you, in discussion, apply your experience. You will obtain great assistance from "Brown's Essay on Cause and Effect." It reveals the objects and limits of inquiry in language beautiful and precise beyond description. To me it seems the most magnificent benefaction science ever received from intellectual exertion; and I am sure you will read it with great pleasure.

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## THE PAST AND PRESENT STATE OF VETERINARY SCIENCE.

*By Mr. T. W. MAYER, Newcastle-under-Line.*

[Continued from page 270.]

IN addition to what I have already stated, the student finds that there is no arrangement made by the governors with regard to lectures on *Materia Medica*, Pharmacy, &c. He possesses this advantage, however, that, without any extra charge, he has the power (through the liberality of many eminent professors of human medicine) of extending and promoting his acquaintance with the science of medicine generally\*.

The student is required to have been entered on the College books twelve months previous to his appearing before the board of examiners, by whom he may then be duly questioned, and, if qualified, licensed to practice the veterinary art. Stripping this matter of all superfluity, it distinctly appears that the College education comprises only the four parts detailed in my former communication: And will this be thought sufficient for the proper and efficient education of a veterinary surgeon?

But suppose we allow the College to have all the advantage of all the means for diffusing medical instruction, and allowing that each lecturer fulfils his part in discussing, methodically and scientifically, the several subjects whereof he treats, would it

\* Twelve tickets are given by Mr. Coleman to the anatomical and surgical lectures at King's College; and a certain number to some of the lectures delivered in the Borough hospitals.

even then be sufficient? When, therefore, we come to consider that the course of our instruction is lamentably deficient, and we farther reflect, that that thorough acquaintance with the anatomy, physiology, and pathology of the animals committed to our charge is, as I before stated, neither fully taught nor described,—is it any wonder that our professional education is defective? And can we, on calmly considering all these things, say that our College has fulfilled its duty in the training up of the veterinary student? Has it continued to raise the superstructure proportional to the increasing wants of its inmates, although its foundations were so well planned and laid? Has it, when the increasing wants of the profession demanded it—when our board of examiners requested that the student would make himself better acquainted with his profession, and that, in addition to his former acquirements, he should know something of chemistry, *materia medica*, and pharmacy? Have they, I ask, hastened to afford increased facilities within its walls for such purposes? I think not.

It is not my wish, and still further from my intention, to say one word in this, or any other of my communications, which is contrary to truth, or not in accordance with perfect justice; but the nature of the subject which I have undertaken demands that, however unpleasant it may be to my own feelings, however unpleasant to the feelings of others, the truth, the whole truth must be stated. Actuated by these feelings, I have treated, to the best of my ability, of the present state of our professional knowledge, and the character of professional education, as exhibited both in our private and public course of instruction; and although this instruction has not attained that state of extension and perfection which is desirable, and notwithstanding every disadvantage which the student may labour under, satisfied I am that he may, if he thinks proper, obtain due acquaintance with the structure, functions, and diseases of the animals which are his study, and that he may become acquainted with the rudiments of chemistry, pharmacy, and *materia medica*, all of which, however, can only be accomplished by great industry and perseverance, and considerable extraneous expense. There is one subject, nevertheless, with which I am not quite sure that he can obtain a perfect acquaintance, and which, as forming an important branch of both private and public professional education, I now propose to treat of—I mean Veterinary Jurisprudence.

Veterinary Jurisprudence is, of all things, the most requisite for a veterinarian accurately to understand; and whatever its present state may be among the profession—to whatever cause this or that individual may trace its degraded state—the fact is,

that we cannot agree in its very basis, viz., what is soundness, and what constitutes unsoundness. We are in the habit of hearing some persons assigning it to our defective education, and others tracing it to another cause; but the more we consider the question, the more decidedly must we be of opinion, that *the fault rests with ourselves*. If a practitioner will not believe what he is taught—if he, in his own ideas, considers one opinion as too strict, and another as not strict enough—if one part of the profession continues at variance with the other, each putting his own construction on what is soundness and unsoundness; how is it possible that future practitioners can act correctly in these matters? Although it may be difficult to fix a standard of veterinary jurisprudence, based upon anatomical investigation and truth—although it may be difficult to induce our veterinary surgeons to adhere to it—yet it is our paramount duty to attempt the basing of it upon some general agreed standard. A question hence arises, What is the first step by means of which we can fix this standard?

In order to fix a standard of veterinary jurisprudence, it is absolutely necessary that we should understand, and rightly consider, the question of soundness and unsoundness, for upon this the whole question hinges. In stating, therefore, with all due deference to the different opinions upon this subject, my ideas, and these formed after mature deliberation, I would observe, first, and what is universally allowed, that soundness is the opposite of unsoundness, as health is from disease. Where, therefore, an animal is naturally formed, and where the functions of the body are discharged in a natural and proper manner, we have no difficulty in pronouncing that animal as sound. Every deviation from this appearance and action is disease; and because a healthy state has reference to the performance of the functions or actions of the body, which then afford the phenomena of health, and because disease consists in an alteration from these natural or healthy actions, and which is known by certain morbid phenomena, we certainly can have no difficulty in pronouncing that unsoundness.

Against this doctrine, which is not without its adherents in the profession, there are numerous objectors. One of these would say, that at this rate nearly every horse in the country would be unsound; another would ask, Did any one ever hear such nonsense,—if my horse has a little bit of an exostosis—if his foot is a little bit contracted—if he has a tiny, puffy enlargement on the fetlock joint, although he may perform the duty I require from him ever so well, he is considered unsound, forsooth, because it is a disease. Yes, much as it may be scoffed

at, speaking not as a sportsman, not as a horse-dealer, but anatomically, physiologically, and pathologically, that horse is unsound : and as long as there is a shadow of objection to accept this doctrine as the general rule for our professional conduct, we shall not cease to have the greatest difference of opinion as to whether such and such diseases which the horse may have upon him render him unsound or not.

Would you then, it may be asked, return or advise the purchaser not to keep every horse that came under your inspection who had the most trivial disease ? Certainly not. No general rule was ever yet laid down, without there being exceptions to it ; and where I know, by practical experience, that such and such a trivial disease does not and is not likely to interfere with the usefulness or action of the animal, I think I should be perfectly justified in making that an exception to the rule, and advising the purchaser to keep the animal. In giving a certificate of such a horse, I would, however, express myself thus :—

This is to certify, that I have examined a                    aged                    and find him sound, with the exception of a                    but which I consider as not likely to interfere with the usefulness of the animal, or the action of the part in any way.  
(Signed).

I finally consider, that if the majority of us were agreed upon this head, and if veterinary jurisprudence were carried out upon this basis, it would become, instead of what it now is—a disgrace—an ornament to our profession.

I return from this, which may be considered a digression, and with some degree of pleasure and pride do I return to remark on the next prominent feature of the present state of veterinary science, viz., the increasing respectability of our profession ; for although we still have reason to regret the conduct of many, yet it is here that, probably, the most visible improvement has taken place. In character, reputation, and in society at large, the veterinary surgeon stands on much higher ground—a fact which, from the numerous disadvantages under which we have laboured, is a matter of congratulation. Viewing, moreover, the subject in a professional light, we derive considerable satisfaction at the deeper knowledge, more extensive information, greater energy and activity displayed by its present members. Nor do I think any one thing more abundantly testifies to the truth of this remark, than the present state of our veterinary press, and the character of our recent publications.

Several *results* are naturally to be expected from this present state of things :—First, that the profession will go on increasing in respectability and professional reputation ; secondly, that our

course of instruction will be adapted to our increasing wants ; and, lastly, that these things will, by their combined influence, contribute to and promote the extension of and addition to veterinary knowledge.

Such being the remarkable features presented to my mind by a contemplation of the past and a review of the present, we have next to consider what are our hopes, our intentions, and our duty with regard to the future.

(To be continued.)

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## INFLUENZA IN THE HORSE.—HOCK DISEASE.

[In a private letter from my friend, the Andersonian Veterinary Professor at Glasgow, are the following paragraphs. At the hazard of being accused by him of breach of confidence, I will transcribe them ; and if his pen—and I know but few that are abler—is employed in lashing me for such transgression, still the readers of THE VETERINARIAN will be no losers.—Y.]

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“ IN the month of June we had another kind of influenza here. It was the same that you had in London. The horse was fevered—the eyelids, muzzle, and legs, anasarous ; the pulse always *small* and *weak*, and seldom beating more than 50, sometimes not exceeding 30. It seemed to be confined to Glasgow and its neighbourhood. Only one death in my practice. Several horses had it twice. In some it was combined with bronchitis. These were largely bled, as were many of the others. More than fifty were not bled. They got aloes in two-drachm doses.”

“ In the discussion on the hock-joint, I think that Mr. Spooner is mistaken. Since I read his paper in 1830, I have seen this supposed ulceration oftener than I can tell. I do not remember to have seen an astragalus without it. You will also find that the wedge-like ridge of the tibia *never* reaches to the bottom of the groove in which it works. Friction of the astragular ridges, as alluded to by Mr. Dick, is not very rare. I have several preparations in which they and the tibia are much worn down, and polished, like ivory. The symptoms are not obscure. There are always lameness and bursal enlargement. I have a hock that belonged to a horse, in whom the bones could be heard grinding upon each other.”

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## FREE MARTEN.

MR. YOUNG, of Tarves, has addressed to us a letter on this subject. An opinion very commonly prevails, that when a cow produces two calves, one of them a bull, and the other a heifer-calf, the female will be incapable of propagation. Our opinion on this point has been expressed in the work on "Cattle." In the majority of cases the female is barren. The animal is, in fact, an *hermaphrodite*. Yet the female organs prevail; and when they do so to a very considerable extent—when the deviation is exceedingly slight, or possibly there is no deviation at all—she will have all the propensities and capabilities of the female.

Some authentic cases are related in page 539, in which the free-marten, or female twin, has bred as regularly as any cow.

Mr. Young requests the opinion of experienced breeders on this subject, and so do we, or that of any of our veterinary brethren who have had opportunity to dissect a free-marten, or who have known any of them to breed.

## ON PUERPERAL FEVER.

*By a Veterinary Surgeon.*

AFTER the many communications published in THE VETERINARIAN, and opinions expressed at the meetings of the Veterinary Association on the disease known by the unscientific though significant name of Dropping after Calving, it would be almost time to drop the subject, only that it appears no two that have, as yet, given their opinions are fully agreed as to its nature, cause, or proper means of treatment; such being the case, I am bold enough to give mine,—that somewhat similar symptoms arise from different causes constituting widely different diseases, and therefore not to be treated upon any one plan which has been recommended; but I dare say yourself and readers will not be so well pleased with any thing I can write in illustration as with the following account of a case (as far as I recollect, different from all that you have published), in which the disease (with its characteristic symptoms and cause of paralysis) was fully developed in a few hours, and without the slightest affection of the uterus; affording a very satisfactory, if not an altogether new view of the matter, and leaving no cause for wonder that such cases are generally fatal:—

A rather old Alderney cow (a great milker, and rather remarkable for keeping herself in good condition also) that had not had a calf for the last three years, continued to give some quantity of milk till within the last few weeks, and appeared to be inconvenienced by the size of her bag making it necessary to milk her some days before her present time for calving; on the arrival of which she was put in at night and turned out again the first thing in the morning. She shortly after brought forth a very fine calf, which she licked, and appeared as well as possible till towards evening, when she was observed to reel in walking, and I was immediately sent for.

At 9 P.M., I found her standing in a shed, without the least appearance of pain, dejection of countenance, or fever, and her shape more contracted than is usual for the time: she had dunged a good deal in the night, and at the time of calving, but (as the man said) not since, and the rectum was empty. She appeared rather full; but, on the whole, there was nothing to indicate a serious affection, till I directed that she should be driven into an adjoining cow-house, which she reached with difficulty. On turning round when in, she fell on her off side, and her head turned, as it were, involuntarily on the near. As I have said before, there was no appearance of fever, and the circulation was rather languid; nevertheless (from what I had seen before and read on the subject) I thought proper to bleed to the extent of six quarts, and gave her a pound of Epsom salts, sending her another half pound with two ounces of ginger to be given immediately, and directing some gallons of warm water to be given within the next three hours. This was done; she turned on her other side, and appeared lively till towards three in the morning; when the man in attendance thought proper to give her some more water, in doing which, her powers of deglutition being impaired, some of it passed down the wind-pipe, and a fearful change immediately took place. I was called up at five, and found her almost dead; but administered a dose of gin and spirit of hartshorn, which appeared to revive her for a time; but she died about three hours after. I may as well mention here, that on turning herself her head again turned on the upper side, and her neck twisted in a way that surprised the attendants. I attended to see her opened, and arriving before the skin was taken off, took out my pocket scalpel, and was cutting away to examine what is called the milk vein, when my attention was taken by the striking off of the horns, and was just in time to witness the escape of some quantity of dirty reddish coloured fluid from the surface of the brain, which substance appeared healthy; not so the pia mater, which (to use a

vulgar expression) had the appearance of a bloody rag, and which extended a considerable way along the spine. The lungs were, as may be expected, somewhat distended, but healthy looking; there was a slight redness of some parts of the small intestines, hardly to be called inflammation; the uterus contracted as much as the time could allow, and scarcely tinged red, which must always be the case more or less.

I have only space at present to briefly mention another case of the kind, in which the bowels and uterus were considerably inflamed; the pia mater also; and I think it likely that some effusion had taken place, but not observed as in the former case.

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## ON PUERPERAL FEVER IN CATTLE.

*By Mr. GOODWORTH, of Driffield.*

IF the Editors do not think this subject too much exhausted, I would crave room for a few remarks on it, especially as my notions of the cause of puerperal fever differ materially from those of other contributors to our valuable journal; and also since my observations are made principally with a view to the prevention of this disease.

The disease, in my opinion, is often produced by the owner not being careful what sort of food he gives to the cow a day or two before she calves and a few days after she has calved. I have met with a great many cases in my practice, and have fancied that I could trace them to the giving the cow hay to eat, or suffering her to eat too much solid food before she had regained her former state of health. I generally caution my employers, if I see a cow in calf, to be careful when she calves not to let her have hay. I have been sent for when they have been down after calving, and in endeavouring to find out the cause, have usually traced it to the owner giving the cow hay directly after calving. When they are in that weak debilitated state which immediately succeeds to parturition, the stomach cannot act, on a substance so difficult of digestion as hay.

There is a paper in THE VETERINARIAN for March, page 144, vol. ix, in which it is particularly stated, that the disease is not produced from debility, and the author takes a case of a fat cow. That gentleman, I suppose, is well aware, that the stomachs are muscular, and that a muscle can be debilitated by being put too much on the stretch, which will cause partial debility, in addition to that general diminution of power which is produced by other causes.

This will require stimulants to excite the stomach to action, and aperients, to carry forward the contents of the digestive canal. I have seen many cases of cows being down after calving, and do not find much trouble in raising them again, if called to the cow as soon as she has dropped. There are two things that frustrate the cure,—one is an over distended stomach, the other the late period at which the attendance of the surgeon is required. I commence the treatment, if the cow is in high condition, with the abstraction of blood, and follow this by the exhibition of a purgative. If she is in poor condition, I omit the bleeding, and have recourse to the purgative at once, combined with stimulants ; and as soon as a purgative effect takes place, I consider the patient out of danger. I have had them lie five days, and yet get up again. I have had cases directly after calving, and others when the calf has been from one to two months old ; and one case of a fat cow, which at the full extent of that period, dropped in the pasture. I abstracted a little blood, and gave aperients, and she recovered.

Another fat cow was found in the cow-house: Her stomach was distended, in consequence of eating too much barley meal. She was lying on her right side, and appeared to be so far exhausted, that there was no chance of her recovery. Her paunch felt like a drum when I pressed upon it. She was in good condition, and I therefore told the owner that she ought to be killed. On post-mortem examination, every viscus was found in a state of perfect health, except the first stomach, which was distended almost to bursting. The cow was sold as beef for nearly her full value, the owner being well satisfied with my honest opinion.

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## EMPHYSEMA OF THE LIVER.

*By Mr. W. RICHARDSON, Oundle.*

THE subject of this case was a cart mare, five years old, the property of a gentleman at Benefield. She was attacked in the early part of February, with the then prevailing epidemic. I was requested to attend her, and the disease yielded to the remedies I usually employ under the same circumstances. She was, when I first saw her, exceedingly low in condition, having been worked hard at the commencement of the winter, from which period there had been a gradual wasting away in her appearance, and her movements were dull and sluggish. I had her removed into a loose stable (she having been till then in the straw yard), where

she was kept by herself; and I ordered that generous and nutritious diet, in small quantities, should be frequently offered to her. The mare rapidly improved in condition, her appetite increased, and her movements were altered to "time allegro." In fact, she had changed so much for the better, that I hoped nothing more was requisite to restore her to her usual vocation than a little rest and a continuation of good living.

A fortnight had elapsed since my last visit, during which time I continued to hear of her improvement, when I was surprised at receiving a note from her owner, wishing me to ride over to his residence immediately, "as the mare was down in her stable, and they could not succeed in getting her up again."

Upon my arrival, I found her in precisely the situation in which he had described her to be. She had shewn no symptoms of uneasiness on the previous evening, but was gayer than usual. During the week she had eaten her food with an increased appetite, and had, in fact, so much improved in her health and appearance, that it was the intention of her owner to have worked her in the week subsequently.

Her breathing was not laborious—her pulse not beyond 45, and *soft*—her ears and extremities were warm and comfortable. There was no peculiar expression of *acute pain*—no rolling on her back—but her head was frequently turned sorrowfully towards her abdomen, as though she would have said, "here is the seat of my suffering, cannot you render me some assistance?"

She made several ineffectual attempts to raise herself, but all to no purpose. Her fæces were in a liquid state, and were voided almost involuntarily. As we had not the means, in the situation in which she was, of suspending her in slings (which, by the by, I generally consider is like signing a death warrant), I thought we had better not exhaust what little strength she had remaining by our misplaced assistance in endeavouring to raise her. I had her comfortably bedded down with dry straw, applied warm clothing to her loins, and administered *zij opii* and gr. v. of cantharides, in combination with ginger and gentian, in some warm gruel, and left another dose, should circumstances require it, to be given in the evening.

During the day she ate several small portions of hay; and a little bran and oats were offered her, a part of which she also partook of. In the evening she appeared decidedly better; at half past eight she seemed to be going on well; but upon entering the stable shortly afterwards, death had closed the scene, and that so abruptly that she evidently died with scarcely a struggle.

Upon the following morning I made a post-mortem examina-

tion, and the appearances which presented themselves are as follow :—

The stomach did not contain the slightest particle of solid food, and only a very small quantity in a state of fluidity ; but was immensely distended with gas. Some bots were adhering, both to the cuticular and mucous linings ; but neither of these membranes were tinged with the slightest blush of inflammation.

The spleen was very flaccid, and the *smallest I ever saw*. The duodenum appeared healthy ; but the other small intestines were inflamed in patches, and their coat loose in texture, the mucous membrane shewing evident symptoms of disease. The cæcum and colon were filled with a black fluid, in appearance and smell resembling the refuse of a gasometer, and in the large flexure of the colon I found several small pieces of coal and a piece of twisted iron wire. The rectum was inflamed towards its termination—neither the omentum, mesentery, nor peritoneum shewed any appearance of disease, and the kidneys were of their natural size, and healthy.

Upon examining the liver, I found it diseased in a most extraordinary manner. At the posterior extremity of the right and left lobes were two tumours (one on each side) filled with a peculiar gelatinous kind of fluid. The liver itself was of a pale ashy colour ; its texture much altered ; and throughout its whole substance it was so completely filled with air, that, upon pressing it, a crackling noise was produced, as when the air insinuates itself between the skin and cellular membrane, as we frequently see from punctures at the point of the elbow, &c. It was so exceedingly light, that I have little doubt, had I thrown a part of it into a vessel containing water (which at the moment I did not think of doing), it would have floated upon the surface. The contents of the thorax were beautifully healthy. Neither the pleura nor lungs, nor any of the viscera situated in that cavity, shewing the slightest appearance of having been diseased. The trachea and bronchi were the same.

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We are not aware of any recorded case similar to that which Mr. Richardson describes. It is, however, easy to conceive of the occurrence of such an one. The liver consists of two substances, distinct in their structure and function ; the one consisting of simple cellular texture, in the form of areolæ or cells, and traversed by numerous vessels conveying various fluids ; the other is a vascular substance, deposited in these areolæ, of a red colour in a healthy state—highly vascular—variable in quantity, and possessing considerable power of turgescence and contrac-

tion. The first is the frame-work of the viscus, the other the accumulation of vessels—the minute glands—in which the work of secretion is performed. This is the *granulation* of the liver, evident enough when it is forcibly ruptured. The union of the two constitutes the lobules or divisions of this viscus.

The vascular apparatus may be increased or diminished in bulk. It may distend these areolæ, or but partially fill them. Its bulk is augmented in inflammation, and it constitutes hypertrophy or enlargement of the liver; it diminishes in, or its diminution is the cause of, atrophy of that viscus. It sometimes almost disappears. We must have been careless observers, if, in examining the dead, we have not occasionally found a larger or smaller portion of the liver in a manner destitute of the vascular tissue, and presenting that only which is, properly speaking, cellular; and we certainly have perceived how much more distinct the granules are in some cases than in others. Now if, under the almost slightest degree of fever or general inflammation, there is some process of decomposition going forward everywhere, accompanied by the extrication of gas, the passage of which among the cells beneath the skin is the cause of the crackling which we hear on pressing the hand on the loins of a bullock—if it is one of the circumstances by which we judge of the degree of fever, and consequently of danger—if, as Mr. Richardson very properly observes, it is heard in some cases of puncture in the horse,—it can readily be supposed that emphysema of the liver is not an impossible state of that viscus, discharging so important a function—so susceptible of disease, and often so cruelly taxed; but the gossamer texture of the areolæ will not permit it to exist to any great extent, or even to be detected when it does really exist.

We ought, perhaps, to apologize for this note; and will conclude by thanking Mr. Richardson for permitting us to record this rare and valuable case.

Y.

## RUPTURE AND DECOMPOSITION OF THE STOMACH.

*By Mr. HAYES, Rochdale.*

AN aged coach horse, the property of Mrs. Marriatt, who keeps a coach establishment at this place, had been affected three or four times, at short intervals, with what the grooms considered as gripes, and which, with a little simple treatment, had

always passed away in a short time. On the 28th of June, 1837, he had another attack : the same means were supposed to be resorted to. Linseed oil and laudanum were given, but the quantity is not stated. For want of a horn, the stable-people made use of a wine bottle, which they found in the stable ; and, without examining whether it was clean or not, they poured the medicine into it, and immediately administered its contents to the horse, even to the very dregs. Shortly after, it was discovered that the bottle had contained liquid blister, and, according to the groom's opinion, not less than three or four ounces of it. All this was kept a profound secret until after the death of the animal. The horse, however, got, to all appearance, as well in a short time as he was used to be, eating his food, &c., as usual. He was sent to severe work next morning, and which he continued to perform, as before, for twelve days ; when, on being taken out of harness at the end of his stage (a distance of eight miles), he lay down, rolled about, and almost bruised himself to pieces by his violent struggles. He continued in this state about one hour, when he died, in extreme suffering. This is the account given to me by the foreman and the helpers.

Mrs. M., on hearing of the death of the horse, sent for me, and requested that I would go and examine him ; which I did in the presence of several persons well versed in horse matters, and two farriers.

The abdomen was tremendously distended with gas, and was as hard as a drum. On opening it, the first thing that presented itself was a quantity of undigested food and brown bloody water mixed together. On examining further, the food—consisting of hay, oats, and beans—was lodged, and impacted between the foldings of the intestines, and the whole of the abdominal viscera appeared as though they had been thus surrounded for a considerable time before death. The stomach was ruptured in many directions, and almost decomposed. Its coats were nearly destroyed, and hung like rags to the cardiac and pyloric orifices. The colon was also ruptured about its middle part, the orifice being about two inches in diameter ; but its other portions were sound. The diaphragm was worn as thin as brown paper, and yielded to the least force at that part which approximates to the stomach. The liver was easily lacerated, and much discoloured. The lungs and the heart, and all the intestines, and through the whole of their course (except the rupture in the colon), appeared in every respect healthy, shewing only a slight discoloration in those parts which lay near the colon or stomach. The kidneys were much larger than usual, and of a very pale colour. The

food which had escaped into the abdomen filled nearly half a bushel.

The horse stood sixteen hands high, was nearly thorough bred, an excellent worker, and, what appears to me strange, he had eaten his feeds of hay and every thing in the same manner as usual (which was always very well), up to the time he was put to the coach, which was about two hours before his death. As I did not see the horse while he was living, I can say little about the symptoms, except from the groom's statement, from which it would seem that there were only the ordinary ones of violent colic. How can I account for the difference between the symptoms and the extensive lesions and decomposition of the stomach, which certainly must have dated its commencement a considerable time previous to death? It was literally so much decayed, that I could not recognize more than one-half of its natural proportions or substance; and yet the horse ate as well two hours before death as he had done at any previous time. This somewhat puzzles me. Was the decomposition of the stomach the effect of the cantharides, &c., which entered into the composition of the liquid blister, acting gradually on its mucous membrane? and if so, why were there not any decisive symptoms of so extensive and important a lesion? The rupture in the colon I can well understand. It appeared to have been the effect of an ulcer eating through the muscular coats, as the edges of the orifice were in a state of ulceration, to a less degree, for two inches round; and this state of the colon, probably, was the effect or cause of the former attacks of colic, or might be occasioned by the Spanish flies, &c.: but how the horse could live, eat, work, and keep his condition (for he was very fat, and fine in his coat) under these circumstances, is to me, what the French would say, *une merveille*.

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Agreeably to a request of Mr. Hayes, we will make a few observations on this case in the next number of THE VETERINARIAN; and, in the meantime, some of our correspondents may, probably, furnish us with the history of similar lesions.

Y.

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## REMARKS ON THE LATE EPIDEMIC, THE INFLUENZA.

*By Mr. JOS. CARLISLE, Wigton.*

MR. EDITOR,—You may probably deem it presumption on my part to attempt to make any remarks on that dangerous and

destructive malady, the influenza; but when you consider that I am only (as it were) commencing my professional career, you will, I doubt not, treat my imperfections with your wonted courtesy. Your kindness, Sir, during my stay at the Veterinary College during the last session, I shall never forget; and the free access you granted to your valuable library deserves a thousand thanks.

On riding through the country, I am very often called to halt, and give my opinion on horses that have been attacked with the influenza, and have not done well since. In several instances I find confirmed cases of glanders; others are confirmed roarers; some have ophthalmia. There was one case of paralysis of the optic nerve, or gutta serena; another of broken wind; several horses had enlargements of the parotid and submaxillary glands, and others chronic cough; some shew great weakness of the loins, and in not a few the hind legs continue œdematous. A staring coat and hide-bound are far from uncommon; a general dulness of the eyes, and, when turned to grass, the irritation of the flies producing weeping from the eyes, and great inflammation. I also met with two cases of phlebitis after bleeding for influenza.

On inquiring into the treatment adopted by the attendant, the general information I obtained was, "The farrier took about a pint of blood from the horse, and then gave him a ball that nearly scoured his guts out." Others, however, were bled to a great extent, and hydrothorax was the consequence; while some were treated more scientifically, and have done well since.

The generality of these cases were among farmers' horses, badly groomed, and subject to the action of an accumulation of the different gases, formed by the union of the animal secretions. On opening a stable door, the strong vapour of ammonia, formed by the union of hydrogen and nitrogen, would make the tears trickle down the cheeks. In such a miserable situation the horse labouring under influenza is tied fast up, and every orifice in the door and wall stopped with straw. Now, if nature can bear up against the influence of this deleterious confinement, and the preliminary symptoms pass away, is the animal not left in a state sadly predisposed to take on glanders, from the influence of the "animal poison" on the system, supposed by Mr. Coleman to be formed by the union of the gases of the stable, but how, or in what way, I know not.

What must be its influence on that delicate organ, the eye? Is it not sufficient to produce ophthalmia, after the eye has suffered from that excessive inflammation frequently present in cases of influenza? Will its influence not be equally fatal on

the extensive organs of respiration, particularly the lining membrane of the passages? Will not this have something to do in producing roaring, broken wind, &c., especially when those parts are in a state of inflammation, and these effluvia pass over the respiratory mucous surfaces every time the horse inspires and expires? Need we wonder at chronic cough, roaring, broken wind, glanders, ophthalmia, cataracts, &c. &c.? Or, are all those diseases the effect of some unknown cause?

I have only had eighteen cases of influenza to attend to since I returned to Cumberland, in which I have been successful with the treatment I adopted. The disease had, in a manner, passed over here, while I was in London. The treatment I adopt is quite simple as regards medicine. The first step I take is, to remove the animal from his stall to a loose box, well ventilated. If there is no convenience of this sort, I have the stable-door cut in two, and one half thrown open, and the horse set at liberty, to walk about at his pleasure.

The next thing is, in the majority of cases, venesection; and yet, frequently, when I feel compelled to bleed, I do so at the hazard of my reputation, for the owner assures me, if I bleed, I shall kill my patient, and if I purge, I shall poison him. Away with such like doctrine! What is our chief, our almost unerring, guide? Is it not the pulse? In many cases, does it not point out the absolute necessity of the use of the lancet? At other times I am told, that if I use depletive measures, my patient will sink to rise no more. Notwithstanding this, a strict attention to the state of the pulse will carry a man successfully through many difficulties, which one unacquainted with its physiology would never surmount.

Next I insert a seton in the chest, and another between the jaws, previously smeared with blister ointment; here I have counter-irritation to my full satisfaction. I apply fomentations continually to the head, frequently throwing up enemas, and occasionally drenching with linseed tea and a decoction of march-mallow.

The medicine I use consists of Barbadoes aloes, in doses from  $\text{zij}$  to  $\text{ziii}$ : this to act as a laxative. As a sedative, I prefer digitalis, in doses of about half a drachm, and as the medicine most to be depended on for producing the desired effect on the heart and circulation. As a tonic, when the time comes for using it, I give gentian  $\text{zij}$ , in preference to mineral tonics, and spirits of nitrous ether,  $\text{zij}$ , to keep up the action of that grand emunctory, the kidney. These medicines being properly administered, and their effects carefully watched, the case is a bad one that bids defiance to them and a good nurse.

After the inflammatory action has subsided, I give, by way of diet, sweet bran, bruised oats, and carrots. May not the seton under the jaw help to prevent some horses from becoming roars, by determining the inflammation to the external parts, while the seton in the chest relieves the respiratory organs by the same process, and prevents hydrothorax? And is not the free access to pure atmospheric air beneficial to the animal, by its acting first as a sedative, and afterwards as the best of all tonics?

## DEATH CAUSED BY OL. PETROLEI.

*By Mr. CARTWRIGHT, Whitchurch.*

ON the 19th of May 1823, a strong half-bred mare, low in condition, was brought to a veterinary surgeon to be dressed for the "Riff" (Mange?), having it very badly. He ordered the apprentice to give her a good dressing with the ol. petrolei, and soon afterwards left home. The apprentice immediately put his order into execution, and rubbed on the poor animal about three pints of this stimulating fluid in its pure state. This was about three o'clock in the afternoon of a very hot day. During the time it was being rubbed in with a brush, she was a *little* uneasy, as if in pain; but just before the time (half-past three) that she dropped down in the yard, she became more violently affected, and shifted about from place to place, and, when down, she perspired much, the sweat passing from her like steam or smoke—with twitchings all over the body, restlessness, the pulse quickened, the inside of the nostrils and eyelids greatly inflamed, and the respiration quickened.

4 o'clock.—The master saw her, and took about three quarts of blood from her, which seemed to ease her; but her jaws became partially locked, and her tail violently agitated.

5 P.M.—About the same, but the belly is now swollen—respiration accelerating—great twitchings about the neck—large flow of saliva from the mouth—and she is insensible to external objects.

9.—The same, and jaws locked.

11.—In the same state. She died some time in the night, and most probably soon after being left.

*Examination.*—The external parts of the body were (after the skin was removed) inflamed. The right lobe of the lungs greatly congested, and on cutting into it, a quantity of blood, to the amount of two or three quarts, flowed out, and was extremely black. The mesentery very vascular. On the lower surface of the spine, about the seventh or eighth dorsal vertebra, there was a

large ossification, of the size of an egg, and further down (about the tenth vertebra) there was another ossification, of about two inches in length, but not so thick as the first-mentioned. The lobe of the lung under the first ossification was indented exactly to fit it, and the lungs appeared indented in different parts. The other lung was but little congested.

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## CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. XVI.

*By Mr. YOUATT.*


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ANEURISM OF THE POSTERIOR AORTA BREAKING WITHIN THE PERICARDIUM—ENLARGED MESENTERIC GLAND—TUMOURS IN THE STOMACH. YOUNG TIGER.

1836, *July 15th*.—I yesterday fancied that there was some swelling on the forehead, occupying nearly the full extent of the frontal and parietal bones. It is more evident now. On coaxing the animal to the bars, I was enabled to examine it; and I found a very considerable effusion, beneath the skin of the forehead, projecting in the centre, and almost ready to burst. I watched for an opportunity, and plunged my lancet into it. At least three ounces of bloody purulent matter escaped. Was this the consequence of some violent blow in his gambols—he gives himself many an one—or does it indicate a scrofulous habit, a disposition to the formation of such abscesses? I hope the former. Nothing more can be done at present.

17th.—The tumour was disposed to fill again yesterday, but to-day it has considerably subsided, and nothing more appears necessary to be done.

18th.—The tumour has gone quite down, and the animal is as well and playful as ever.

31st.—There is a little tumour beginning to appear in the space between the branches of the lower jaw. It is visible enough to the eye, and when by chance the finger can be placed on it, it is perfectly hard. I am afraid, coupling this with the abscess in the forehead a little while ago, that there are indications of a scrofulous taint, as in the lioness that last died. We will anxiously watch a little, and, if necessary, attack the disease in good earnest.

*Aug. 1st.*—The tumour has not increased, but it is as large as ever. It is of the size of a sparrow's egg.

*3d.*—It is evidently increasing. I will wait another day or two—it may point and break.

*4th.*—It is not larger than yesterday, but it is thoroughly and uniformly hard. Give three grains of the hydriodate of potash daily.

*6th.*—The tumour is rapidly abating. The storm is passing over for the present. Continue the iodine.

*8th.*—The tumour has disappeared. Continue medicine.

*16th.*—The medicine had been continued to the present day. The animal was as full of play as ever, and apparently in perfect health this morning. One of the council was there, and was admiring him. Another gentleman saw him two minutes afterwards. He was still at play. In less than two minutes more he was found dead. On first opening him, the contents of the abdomen seemed to exhibit every appearance of perfect health: but on examining more closely, a tumour, nearly the size of a bantam's egg, was found to be attached to the anterior portion of the mesentery. On opening the stomach, six flattened tumours appeared; two of them a full inch and a half across, and seeming to be situated in the submucous tissue. I considered them as being of a strumous character, and was connecting them in my mind with the tumour that a little while before had appeared under the jaw. I would not cut into them, but sent them to Mr. Owen, at the Royal College of Surgeons. He makes the following observations on them in the Proceedings of the Zoological Society of London, 1836, p. 123:—"I received, a few days ago, from the Medical Superintendent of the Society's Menagerie, the stomach of a young tiger, exhibiting on the internal or mucous surface what he at first considered to be scrofulous tumours. They were five or six in number, of a round and oblong form, varying in size from half an inch to two inches in the largest diameter, and the largest of them projecting about half an inch from the plane of the inner surface. They made no projection externally. The mucous membrane covering the smaller tumours was puckered up into minute reticulate *rugæ*; the surface of the largest was smooth. On wiping away the tough thick mucous secretion from the tumours, and examining more closely their surface, two or three orifices presented themselves in the larger, and a single orifice in each of the smaller tumours. These orifices conducted to irregular sinuses, which were the *nidi* of two kinds of *Nematoid Entozoa*, some measuring nearly an inch in length, and a line in thickness. The others were more minute, not exceeding five lines in length, and one-

fiftieth of an inch in diameter. Only a pair of the larger entozoa were found in each of the three largest tumours. The smaller species existed in countless numbers.

"The tumours were composed of condensed accumulated layers of the sub-mucous cellular tissue, presenting a flat surface next to the muscular coat to which the larger tumours firmly adhered, and projecting with a rounded convexity towards the cavity of the stomach, where the sinuses opened and terminated. They did not contain any of the caseous secretion characteristic of *struma*, but were most probably caused by the irritation of the entozoa."

Mr. Owen gives the following account of these entozoa:—  
"The male is about one-fourth smaller than the female. In both sexes the body is slightly attenuated at the two extremities. The caudal extremity is more inflected and obtuse in the male. The oral extremity in both is obtuse and truncate.

"The surface of the body appears to the naked eye to be minutely striated transversely. It is variegated by the white genital, and amber-coloured digestive tubes appearing through the transparent integument. When examined with a powerful lens, the anterior two-thirds of the body is seen to be covered by a series of minute reflected spines, presenting three distinct points—one large one in the middle, and two small lateral ones.

"The mouth is surrounded by a tumid circular lip, armed with six or seven circular rows of well-developed spinous processes of a similar complex structure to those on the body. The oral orifice itself presents the form of a vertical elliptical fissure, bounded on each side by a jaw-like membranous fold or process, the anterior margin of which is produced in the form of three straight horny points or processes directed forwards. These lateral processes can be protruded beyond the circular lip, by compressing the smooth spineless skin behind the latter; and the elasticity of the structure causes them to be again retracted on remitting the pressure."

Mr. Owen considers this *nematoid* worm to resemble most nearly some species referred by Rudolphi to the genus *Strongylus*, as the *Strongylus trigonocephalus*; but the armature of the mouth is so remarkable in the present worm, that Mr. Owen is induced to regard it as the type of a new genus, which he proposes to denominate *gnathostoma*, from *γναθος*, *maxilla*, and *στομα*, *os*, and he would thus describe it:—

"GEN. CHAR. *Corpus* teres, elasticum, utrinque attenuatum. *Caput* unilabiatum, labio circulari tumido integro; os emissile, processibus corneis, maxilliformibus duobus lateralibus

denticulatis. *Genitale masculum* spiculum simplex, ad basin papillis circumdatum.

“Sp. *Gnath. spinigerum*. *Gnath.*, capite truncato, corpore seriebus plurimis spinulorum armato.”

The internal anatomy of these worms presents some peculiarities which had not been before detected in the class *entozoa*; particularly a distinct salivary apparatus like that which exists in the *holothuria* and other *echinodermata*. This apparatus consisted of four elongated straight blind tubes, each about two lines in length, composed of spiral decussating fibres, their contents being semi-pellucid, placed at equal distances around the commencement of the alimentary canal, having their smaller extremities directed forward, opening into the mouth at the back of the lateral tridentate processes. The co-existence of these salivary glands, with an oral apparatus, better adapted for trituration than any that had been yet discovered in the *entozoa*, is a highly interesting circumstance. Connected with this is the evident trace of a stomach, about three lines in length, containing a milk-white substance, and separated by a well-marked constriction from the remaining portion, which may, therefore, be regarded as intestine. The internal surface of this intestine has something resembling valvulæ conniventes; at least it has large, regular, obtuse, lozenge-shaped processes, arranged in alternate longitudinal rows.

These tumours, which, not having seen their contents, I imagined to be strumous, were not the immediate cause of the death of the animal. On opening the thorax, this was plain enough. An aneurism of the posterior aorta had burst within the pericardium. That sac was filled with blood—the pulsations of the heart could no longer be carried on, and the animal had died instantaneously. Thus far, however, I am still disposed to think that the strumous disease under which the animal had laboured was connected with the immediate cause of death, by the arterial debility which it would necessarily produce. The tumours in the stomach, I am now disposed to believe, with Mr. Owen, were produced by the irritation of the *entozoa*.

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## THE VETERINARIAN, NOVEMBER 1, 1837.

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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ERE the next Number of this periodical will have been received by its readers, another scholastic session will have commenced in our southern Veterinary School. Professor Coleman's advertisement has already announced that, on the 20th of November, he will begin his Lectures on the Anatomy, Physiology, and Pathology of the Horse, and *the general functions and diseases of other domestic animals*. For the sake of the student and the profession, for the sake of common honesty, we do hope that this recorded pledge will be at length redeemed.

The studies of the medical pupil commenced a month ago, and so ought those of the veterinary one. The portion of the year devoted to the tuition of the aspirant for veterinary honours, at least equals that, during which the future practitioner of human medicine is employed in preparing himself for the arduous duties of after-life; but it is not well chosen. A period best adapted to the labours of the dissecting-room would be lost, were it not for the arrangements of those to whom the pupil is most deeply indebted; and, on the other hand, he is compelled to remain in the metropolis during the heat of the summer months, when he would pursue his anatomical investigations at the hazard of health, and when the impossibility of properly discharging one duty too often tempts him to misemploy the time which hangs heavy on his hands. This, although a subject of minor consideration, is an important one, and ought to be looked to.

The labours of the College have, however, in a very important degree begun. Mr. Morton is employed in his useful examinations of the senior pupils, especially on the general principles of chemistry, and the application of them to the practice of the veterinary surgeon; and Mr. Spooner has commenced a series of demonstrations of the eye, the brain, the nerves, and the respiratory system, most important to those who will soon depart

from the College ; and also demonstrations of veterinary osteology, highly valuable to the new-comer, and laying the foundation for his future and rapid improvement.

To the first of these gentlemen we have often listened with pleasure and profit in another place ; and we congratulate the veterinary student in having one so competent and so anxious to impart that pharmaceutical knowledge heretofore withheld, or to be obtained only at the sacrifice of other pursuits, and without which the practitioner would often compromise his own reputation and the well-doing of his patient.

We took the liberty of dropping in at the first demonstration of Mr. Spooner ; and we were truly pleased with its seeming simplicity, its perfect clearness, and yet the tact with which it was made to extend to every point essentially connected with future practice.

An old teacher, but now retired from the lecture-room, may be permitted to warn the student of the paramount importance of that period of time on which he is about to enter. Mr. Spooner, in his introductory demonstration, the other day, earnestly recommended his junior pupils to make themselves perfectly masters of the osteology of their patients, before they seriously and deeply turned their thoughts to any thing else : and so would I, somewhat in the language that I was formerly accustomed to use, impress upon them the importance of the close and anxious study of anatomy. The lectures of their professors, and of other teachers in the College or its immediate neighbourhood, will obtain a due portion of their attention ; but this will, for a time, be considered only as a relief and relaxation from severer study : and the student will do himself wrong, who often runs far from home to listen to that which he cannot perfectly understand, and which he will rarely be able to apply to his own profession.

If he would qualify himself for future scientific and successful practice, if he would uphold and add to the reputation of the profession which he has adopted, let me tell him that there is but one path—*an early, a close, an unremitting study of anatomy*. It is on this foundation, and on this alone, that his veterinary acquirements and his future respectability must be reared. How

will he repair the machine unless he perfectly understands its construction? There is scarcely a disease, there is certainly no operation, in which accurate anatomical knowledge will not only be useful, but absolutely necessary.

Begin, *I* say too, with the bones. Study their precise form—their relative situation and connexion—the mechanical advantage or disadvantage with which they act—the plain and almost innumerable instances of the former, and the important benefits which are conferred by every apparent deviation from the strict rules of mechanics.

Then, understanding the bony structure of the machine, apply to it the admirable arrangement of cords, and pullies, and hinges. Fully master each organ and limb as you proceed. Your subjects are easily procured—they are not expensive—they are not offensive or dangerous; and no excuse can be made for you, if you neglect that, without the knowledge of which you will be mere pretenders. But I will not enter farther into this, lest I should appear more of an unwelcome and somewhat impertinent intruder than an anxious friend.

There is one circumstance new, and delightful, to think of—you will have it in your power to become members of an Association intimately connected with your improvement and the welfare and onward progress of the veterinary profession. The former meetings of the students were pleasing and useful; but there were serious drawbacks. The pupil was not qualified to treat or to judge of many a subject that came under consideration. How many principles have I heard promulgated and violently defended, which the speaker, a few years afterwards, would blush to think that he could ever have believed!—how many notions, founded on careless observation and hearsay evidence, which he will be compelled painfully yet decidedly to disavow in after-life! The practitioner has also his erroneous notions, and his violent prejudices, and he would be inclined to lead you somewhat astray—but there are others who sit on the same bench with himself, who will speedily correct every material error, and, from the collision of opinion among competent men, truth to a very important extent must be elicited. I hardly know how to

calculate the ultimate advantages which must result from this union of the student with the practitioner.

It will be your inclination as well as your privilege to connect yourselves with such an Association : but there are duties which you owe to yourselves and to it. For your own sakes you will take little part in the discussion of those subjects on which serious study and considerable experience have not qualified you to offer your opinion. Your part of the discussion will chiefly consist in endeavouring to elicit that information which older and more practised men are competent and willing to give. You will not conceive that you are bound, at the sacrifice of proper courtesy and legitimate reasoning, to persist in maintaining every or any principle which you have avowed. Your object is improvement ; and even the author of the essay—the defender against all antagonists—will never exhibit purer chivalry than when he yields to the power of truth. There is one paramount duty which you will owe to the Association,—the maintenance of kindly feeling among all its members, and the scrutinizing examination, and the silent but firm rejection of every one that may probably or certainly put to hazard its union, and reputation, and usefulness.

I do not know how our leading article on the first month of our scholastic session can be better closed, than by the account which Dr. Roget gives of the difference between the patient of the human and the veterinary surgeon. They who have already seen it in his portion of the *Bridgewater Treatises*, will not think the few moments mispent which are devoted to its reperusal, and they to whom it is new cannot fail of being struck with its simplicity, its correctness, and its deep and irresistible eloquence.

“Confining our inquiries, then, to the more intelligible intellectual phenomena displayed by the higher animals, we readily trace a gradation which corresponds with the development of the central nervous organ, or brain. That the comparison may be fairly made, however, it is necessary to distinguish those actions which are the result of the exercise of the intellectual faculties from those which are called instinctive, and are referrible to other sources. The actions of animals appear

on various occasions to be guided by a degree of sagacity not derivable from experience, and apparently implying a foreknowledge of events, which neither experience nor reflection could have led them to anticipate. We cannot sufficiently admire the provident care displayed by nature in the preservation both of the individual and of the species, which she has entrusted, not to the slow and uncertain calculations of prudence, but to innate faculties, prompting, by an unerring impulse, to the performance of the actions required for those ends. We see animals providing against the approach of winter, the effects of which they have never experienced, and employing various means of defence against enemies they have never seen. The parent consults the welfare of the offspring she is destined never to behold ; and the young discovers and pursues without a guide that species of food which is best adapted to its nature. All these unexplained, and perhaps inexplicable, facts, we must content ourselves with classing under the head of *instinct* ; a name which is, in fact, but the expression of our ignorance of the nature of that agency of which we cannot but admire the ultimate effects, while we search in vain for the efficient cause.

“In all the inferior orders of the animal creation, where instincts are multiplied while the indications of intellect are feeble, the organ which performs the office of the brain is comparatively small. The sensitive existence of these animals appears to be circumscribed within the perceptions of the moment, and their voluntary actions have reference chiefly to objects which are present to the sense. In proportion as the intellectual faculties of animals are multiplied, and embrace a wider sphere, additional magnitude and complication of structure are given to the nervous substance which is the organ of those faculties. The greater the power of combining ideas, and of retaining them in the memory, the greater do we find the development of the cerebral hemispheres. These parts of the brain are comparatively small in fishes, reptiles, and the greater number of birds ; but in the mammalia they are expanded in a degree nearly proportional to the extent of memory, sagacity, and docility. In man, in whom all the faculties of sense and intellect are so har-

moniously combined, the brain is not only the largest in its size, but, beyond all comparison, the most complicated in its structure\*.

“ A large brain has been bestowed on man, evidently with the design that he should exercise superior powers of intellect; the great distinguishing features of which are the capacity for retaining an immense variety of impressions, and the strength, the extent, and vast range of the associating principle, which combines them into groups, and forms them into abstract ideas. Yet the lower animals also possess their share of memory and of reason: they are capable of acquiring knowledge from experience; and, on some rare occasions, of devising expedients for accomplishing particular ends. But still this knowledge and these efforts of intellect are confined within very narrow limits; for nature has assigned boundaries to the advancement of the lower animals which they can never pass. If one favoured individual be selected for a special education, some additional share of intelligence may, perhaps, with infinite pains, be infused; but the improvement perishes with that individual, and is wholly lost to the race. By far the greater portion of that knowledge which it imports them to possess is the gift of nature, who has wisely implanted such instinctive impulses as are necessary for their preservation. Man also is born with instincts, but they are few in number compared with those of the lower animals, and, unless cultivated and improved by education and reason, would of themselves produce but inconsiderable results. That of which the effects are most conspicuous, and which is the foundation of all that is noble and exalted in our nature, is the instinct of *sympathy*. The affections of the lower animals, even between individuals of the same species, are observable only in a few instances; for in general they are indifferent to each other's joy or suffering, and regardless of the treatment experienced by

\* All the parts met with in the brain of animals exist also in the brain of man; while several of those found in man are either extremely small, or altogether absent in the brains of the lower animals. Soemmering has enumerated no less than fifteen material anatomical differences between the human brain and that of the ape.

their companions. The attachment, indeed, of a mother to her offspring, so long as its wants and feebleness require her aid and protection, is as powerful in the lower animals as in the human species ; but its duration, in the former case, is confined, even in the most social tribes, to the period of helplessness ; and the animal instinct is not succeeded, as in man, by continued intercourse of affection and kind offices, and those endearing relations of kindred, which are the sources of the purest happiness of life.

While nature has apparently frowned on the birth of man, and brought him into the world weak, naked, and defenceless, unprovided with the means of subsistence, and exposed on every side to destruction, she has in reality implanted in him the germ of future greatness. The helplessness of the infant calls forth the fostering care and tenderest affections of the mother, and lays the deep foundation of the social union. The latent energies of his mind and body are successively, though slowly, developed. While the vital organs are actively engaged in the execution of their different offices—while the digestive apparatus is exercising its powerful chemistry—while myriads of minute arteries, veins, and absorbents are all indefatigably at work in building and modelling this complex frame, the sentient principle is no less assiduously and no less incessantly employed. From the earliest dawn of sensation it is ever busy in arranging, in combining, and in strengthening the impressions it receives. Wonderful as is the formation of the bodily fabric, and difficult as it is to collect its history, still more marvellous is the progressive construction of the human mind, and still more arduous the task of tracing the finer threads which connect the delicate web of its ideas, which fix its fleeting perceptions, and which establish the vast system of its associations ; and of following the long series of gradations by which its affections are expanded, purified, and exalted, and the soul prepared for its higher destination in a future stage of existence.

Here, indeed, we perceive a remarkable interruption to that regular gradation which we have traced in all other parts of the animal series ; for between man and the most sagacious of the

brutes there intervenes an immense chasm, of which we can hardly estimate the magnitude. The functions which are purely vital and are necessary for even the lowest degree of sensitive existence, are possessed equally by all animals. In the distribution of the faculties of mere sensation, a greater inequality may be perceived the intellectual faculties, again, are of a more refined and nobler character, and, being less essential to animal life, are dealt out by nature with a more sparing and partial hand. Between the two extremities of the scale we find an infinite number of intermediate degrees. The more exalted faculties are possessed exclusively by man, and constitute the source of the immense superiority he enjoys over the brute creation, which so frequently excels him in the perfection of subordinate powers. In strength and swiftness he is surpassed by many quadrupeds. In vain may he wish for the power of flight possessed by the numerous inhabitants of the air. He may envy that range of sight which enables the bird to discern from a height at which it is itself invisible to our eyes the minutest objects on the face of the earth. He may regret the dulness of his own senses when he adverts to the exquisite scent of the hound, or the acute hearing of the bat. While the delicate perceptions of the lower animals teach them to seek the food which is salutary, and to avoid that which is injurious, man alone seems stunted in his powers of discrimination, and is compelled to gather instruction from a painful and hazardous experience. But if nature has created him thus apparently helpless, and denied him those instincts with which she has so liberally furnished the rest of her offspring, it was only to confer upon him gifts of infinitely higher value. While in acuteness of sense he is surpassed by inferior animals, in the powers of intellect he stands unrivalled. In the fidelity and tenacity with which impressions are retained in his memory, in the facility and strength with which they are associated, in grasp of comprehension, in extent of reasoning, in capacity of progressive improvement, he leaves all other animals at an immeasurable distance. He alone enjoys in perfection the gift of utterance; he alone is able to clothe his thoughts in words; in him alone do we find

implanted the desire of examining every department of nature, and the power of extending his views beyond the confines of this globe. On him alone has the high privilege been bestowed of recognising and of adoring the power, the wisdom, and the goodness of the Author of the Universe, from whom his being emanated, to whom he owes all the blessings which attend it, and by whom he has been taught to look forward to brighter skies, and to purer and more exalted conditions of existence. Heir to this high destination, man discards all alliance with the beasts that perish; confiding in the assurance that the dissolution of his earthly frame destroys not the germ of immortality which has been implanted within him, and by the development of which the great scheme of Providence, here commenced, will be carried on, in the future state of being, to its final and perfect consummation.

*Roget's Bridgewater Treatise*, vol. ii, p. 573.

### Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

*Inaugural Dissertation on the Physiology and Pathology of the Brain.* By JOHN HUGHES BENNETT. Edinburgh: John Carfrae and Son; Longman and Co., London.

THERE is no portion of physiology so interesting—there is none in the knowledge of which such rapid advances have been made within the last few years—as the structure and functions of the brain, and the laws which govern its operations and its powers. It is now acknowledged by all inquirers, that sensation and motion are intimately connected with the existence and healthy structure of the brain and spinal cord, and that intellectual power belongs to the brain alone. We have nothing to do with the metaphysical speculations of theologians—there is nothing in these inquiries which can interfere with our duties or our hopes—we leave the connexion between matter and mind to the discovery of future ages, or a future existence: but we have arrived at this simple, profound, sublime conclusion, that all the manifestations of mind are attributable to the brain, and that all

the higher faculties and instincts of living beings keep pace with the development of that organ.

The brain and nervous system being allowed to furnish those conditions that were necessary for the manifestation of sensation, motion, and intelligence, it was natural to inquire in what particular parts of that system the conditions of each were to be found. Strange and wild were the fancies of our early and late physiologists on this subject. Des Cartes had placed the seat of sensation in the pineal gland—Willis, in the corpora striata—La Peyronie, in the corpus callosum—Soemmering, in the water of the ventricles—Digby, in the septum lucidum—Le Cas, in the pia mater—Haller, in the medulla of the cerebrum—Petit and Zoville, in the cerebellum—and Richerand, in the annular protuberance.

Motion had been located by Willis in the cerebrum, by Haller and Rolando in the cerebellum, and by Magendie and others in the corpora striata and quadrigemina, as well as the cerebellum. Le Gallois considered that both sensation and motion were dependent on the spinal cord—Dr. Wilson Philip, that motion is independent of the brain and spinal cord—Flourens, that the cerebral lobes are the seat both of sensation and volition; and he seems to have established that the cerebellum is the regulator of motion. Magendie and Desmoulins imagine that all *special* sensibility is referrible to the influence of the fifth pair of nerves. Bellingeri attributes to the hemispheres the power of producing the motions of flexion, and to the cerebellum that of causing extension.

Dr. Bennet proceeds (not to reconcile these strangely-contradictory opinions of talented and honest inquirers, but) to explain that simple and satisfactory history of nervous influence, which gradually arose from all these experiments and theories, and which may now be considered as established. He commences with the fact, that in no single instance has mind been manifested without a brain, and that sensation and motion remain perfect after the removal of a large portion of the brain, but cease on the destruction of the spinal marrow; hence he concludes, that the principle on which sensation and motion depend resides in the spinal cord, but that some part of the brain is associated with these functions. The *superior* portion of the spinal cord—my readers are mostly veterinarians—is connected with sensation—the *inferior* with motion—they both consist of fibres, arranged in parallel lines. On tracing both of them downward, they form nerves which ramify on various parts of the body, and partake of the property of mobility and sensibility. On tracing them upward, they partially decussate, and then proceed onward

in regular lines—the posterior columns going to the optic thalami, and the anterior to the corpora striata. So far they were distinct and separate; but from the bodies just named, minute fibres were given off, which mingled together, and could be traced to the cortical substance, where they terminated: the medullary part of the brain is made up of these fibres, running between the cortical substance and the optic and striated bodies.

The examination of various animals shews a correspondence between the quantity of this cortical substance and the depth of its convolutions, &c., and the intelligence of the animal. Experiments have clearly shewn, that on slicing away the brain, there is no indication of suffering; but the animal becomes more dull and stupid in proportion to the quantity of cortical substance removed. Where disease commences at the circumference of the brain, the mental faculties are always affected first; but where it commences in the central parts of that organ, the mental faculties are the last to become affected. These and several other facts, warrant him in considering the cortical substance of the brain as the seat of intelligence, and therefore by means of the fibres forming the medullary portion, the influence of volition is transmitted from the grey matter to the corpora striata, and impressions on the external organs of sense are conveyed from the optic thalami to the grey substance. In other words, the medullary fibres running between the cortical substance and the corpora striata, transmit the influence of volition to the motor column; and those running between the optic thalami and the cortical substance, transmit impressions from the sensitive column to the mind.

But there are various movements continually going on in the frame, with which volition has nothing to do, and with the very existence of which we are in a great measure or altogether unconscious,—such is action of the various muscles connected with organic life. All motion is occasioned by stimuli acting upon muscular contractility, and these may be classed under two heads—the stimulus of volition, and that of chemical and mechanical agents. This is the difference between voluntary and involuntary motion; and with this important circumstance, that the voluntary muscles often act independently of the will, and even in direct opposition to its mandates.

These involuntary motions belong to the system called, by Dr. Marshall Hall, “Excito-motory.” In voluntary motion, the impression having been made, its influence is conveyed to the part acted upon by means of the same motor nervous filament throughout. The involuntary action is produced by means of a reflex function,—the impression is first made on a sensitive

nervous filament, whence its influence is reflected to the proper motor filament. For the explanation of this ingenious theory, the reader is referred to Dr. Bennett's work, or to Dr. Marshall Hall's Lectures on the Nervous System. Dr. Bennett now sums up his account of the brain, and of the portions of it more immediately connected with motion, sensation, and intelligence, in the following clear and interesting statement :—

The principal conclusions arrived at, may be shortly summed up as follows :—

“1. The cortical substance of the brain furnishes the conditions necessary for mental acts.

“2. The medullary portion is formed of three sets of fibres, and serves merely to conduct the influence of stimuli.

“The first set transmit the influence of volition from, and the result of impressions on, the external organs of sense to the cortical substance, so that we become conscious of such impressions. Hence they may be called the fibres of volition and consciousness.

“The second set connect together the two hemispheres of the brain, and convey the influence caused by mental changes from one to the other.

“The third set perform a similar office with regard to different parts of the same hemisphere.

“3. Sensation, as it is at present understood by physiologists, expresses two things :—1st, That the influence of a stimulus has been conveyed to the sensitive column. 2dly, That this influence has been continued through the fibres of the medullary portion of the brain to the cortical substance. In other words, we must be conscious of the impression that has been made, in order to produce a sensation.

“4. The sensitive column commences superiorly with the optic thalamus on each side, forms the *posterior* part of the medulla oblongata and spinal cord, and terminates where the nerves are given off inferiorly.

“5. The motor column commences superiorly with the corpus striatum on each side, forms the *anterior* part of the medulla oblongata and spinal cord, and terminates where nerves are given off inferiorly.

“6. All associated movements are either voluntary or involuntary.

“Voluntary movements are excited by a mental stimulus arising in the cortical substance of the brain, which is transmitted to the motor column by the nerves of volition, and continued forward to the muscles moved.

“Involuntary associated movements are excited by chemical, or by mechanical stimuli, which are conveyed to the sensitive column by the

sensitive fibres in the nerves, and reflected to the motor column, whose filaments transmit them to the muscles acted on.

“From this it follows that,

“7. Voluntary and involuntary associated movements are occasioned by stimuli, the influence of which is conveyed by nervous fibres to the part acted on,—but that, in the one case, the stimulus is mental, in the other, chemical or mechanical.

“The movements termed excito-motory are of the latter class.”

Dr. Bennett next proceeds to the explanation of numerous physiological and pathological phenomena afforded by this new explication of the nervous system. For this we must refer to the work itself, premising that the student will be gratified and instructed.

The work reflects the highest credit on our medical debutant, and is a pledge that the degree which he sought was well and worthily bestowed upon him. The subject on which he treats occupies a common ground between the two professions, and many of his illustrations are borrowed from comparative physiology. We cordially recommend it to the perusal of the veterinary practitioner, and of the veterinary student, too, when he has obtained sufficient anatomical, and physiological, and pathological knowledge properly to understand and appreciate it. We admire his concluding remarks; but he underrates his own powers, and the well-founded expectations of his medical brethren.

“I cannot conclude without remarking, that our knowledge of the nervous system has now made such rapid progress, that the nomenclature connected with it requires revision and alteration. The student is confused by the different meanings applied to the same words, the immense number of theories advanced, and the numerous circumstances to take into account before the most simple effect can be satisfactorily explained. Those also whose knowledge keeps pace with the progress of science, must see the inconsistency of many terms in general use; and the difficulty of expressing *concisely* the various actions attributed to different portions of the nervous system. I am conscious, however, that this great revolution in physiology is not to be accomplished by any feeble efforts of mine. It requires some mighty magician, whose wand is sufficiently powerful to break through the chains which time and custom have placed around this beautiful study; whose penetration is able to detect the fallacies and unfounded speculations with which it is encumbered; and whose genius and intellectual superiority will enable him to arrange the heterogeneous materials

now collected into a perfect system, and connect with it a terminology that will not only apply to the past and present knowledge of physiologists, but to whatever future discoveries may be made in this rich and inexhaustible field of inquiry."

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### Extracts.

#### FOREIGN BODIES FOUND IN THE STOMACH AND SMALL INTESTINES OF A HORSE.

*By M. BLAVETTE, M.V.*

AN Andalousian horse, eight years old, with white hair beautifully spotted with black, of good figure, but lazy, refusing even the lightest work, was in the stables of Joseph Napoleon, at Madrid. He fed badly, and often had a depraved appetite—he was a notorious cribbiter—neither the manger nor the rack, nor the fragments of the bars escaped him—he gnawed his halter, and licked the walls, and ate up all the earth he could get at, and was a confirmed roarer. It was often in agitation to get rid of him, and he was only kept on account of his beautiful form and the peculiarity of his colour, which singularly coincided with that of another horse in the same stables: in fact, he was of no use to us except on days of unusual parade and ceremony.

During many years he was periodically attacked by violent colics, which lasted several hours, and which were becoming more and more frequent in their recurrence. He was often sent to the infirmary on this account, and subjected to the proper treatment and regimen; but no sooner did he return to his ordinary food, than the colicky pains also returned.

These periodical attacks led me conjecture that there was some derangement of the alimentary canal, or of the urinary organs. I therefore adopted the following mode of treatment. From an ounce and a half to three ounces of sulphuric ether were administered in a weak vinous mixture, or in a mucilaginous drink which I sometimes used. An infusion of the common chamomile (*Camomille Romaine*), to which were added two or three drachms of camphor dissolved in sulphuric ether, generally produced a calm. At other times the ethereal oils were useful, and saponaceous lotions. When these means were without effect, I had recourse to laudanum, either in a mucilaginous drink or an infusion of chamomile. When the belly was swelled, I gave ether and ammonia in suitable drinks. To all these means were added injections, friction, walking exercise, sweating exercise, vapour-baths, sedative applications, covering with sheepskins, &c.

By some of these means I had always succeeded in relieving the animal, until April 1813, when he was labouring under one of the most violent of his usual attacks of colic. He beat himself about without ceasing during twelve or fifteen minutes, and then died in the most violent convulsions.

*Examination immediately after Death.*—The peritoneal covering of the stomach and intestines was in a normal state. There was only a small quantity of food in the stomach, but it contained four and a half pounds of earth and sand\*. Its mucous membrane was inflamed. The liver, the spleen, the kidneys, and the bladder were in their natural state. In taking out the intestines from the abdominal cavity, and detaching them from the dorso-lumbar region, the knacker's knife was arrested by a hard substance. On dissecting it out, I found it to be a brass wire, one end of which, four or five inches in length, was loose in the small intestine; the other portion of it penetrated through the walls of that intestine, passed for a considerable distance between the duplicatures of the peritoneum, then turning, and pursuing its course along the dorsal vertebræ, traversed the adipose tissue on the anterior part of the right kidney, and penetrated a little way into the muscles of that region. This wire was retained and solidly fixed in the parts which it traversed, by the engorgement which was formed around it. It was about the size of a knitting-needle, eight or nine inches long, and retaining its round and perfect form through its whole extent.

The colon and cæcum contained many portions of sand and earth, scattered here and there through the whole of their extent. The other organs were carefully examined, but presented nothing unusual.

There can be no doubt that this wire, at some previous and perhaps distant time, had been swallowed in the food.

The depraved appetite of this animal—his seizing between his teeth every hard substance that was within his reach—the eructations which were so plainly heard—the eating of earth and sand—the licking of the walls—the dreadful pains which he occasionally felt, did they indicate the presence of some foreign body, or an organic vice in some part of the digestive system? This is a question difficult to answer. I certainly suspected the latter, and on that suspicion my plan of treatment was formed.

*Mém. de la Soc. Vét. du Calvados*, vol. ii, p. 81.

\* I afterwards learned that this horse had escaped from the groom who was conducting him to the watering-place on the morning of the day on which he died, and that he galloped to the riding-school, where he was seen eating of the earth and sand of which the floor of that place was composed.

## PROTRUSION AND INVERSION OF THE BLADDER IN A MARE.

*By M. F. DEVAUX.*

ON the 21st of April, 1820, I was desired to see a carriage mare that had aborted fifteen days previously. A tumour from nine to ten inches in diameter protruded from the vulva. The proprietor told me, that, on presenting her to a horse in order to be covered, the stallion was unable to introduce the penis into the vagina; that, on opening the labia in order to ascertain the cause, he observed, towards the inferior commissure, a tumour, about the size of his fist; that it gradually increased in size, and appeared largest when the mare was endeavouring to stale. She was often straining for this purpose, and the water ran from her in small quantities.

This tumour was of an oblong form, and occupied the inferior part of the vulva; it diminished very much towards its base, where it assumed the form of a kind of peduncle. Its surface was red, soft, and chapped in various places: at the base on each side was a little nipple-formed opening, whence, every five or six minutes, there escaped a white fluid, somewhat thickened, which I considered to be the urine, and these openings to be the ureters. I immediately recognized the tumour as an inversion of the bladder. When I attempted manually to examine it, the mare struggled violently, and threw herself down, and there ensued a violent distention and bruising of the tumour. It became more profoundly chapped in various places, in a direction from above downwards, and through the whole length of the tumour; and in the course of five or six minutes five or six pints of blood were discharged. I washed it with vinegar and water to no purpose. I then had recourse to pure vinegar, and the hemorrhage ceased.

The mare being raised, and more quiet, I proceeded to the reduction of the tumour. I caused it to be supported by an assistant, and by gently pressing on its sides and inferior extremity with my fingers and hand, I succeeded in completely returning it. I still continued to hold my hand firmly pressing on the base of the bladder for nearly half an hour; and the mare being quiet, and I plainly feeling the contraction of the sphincter on my arm, I hoped that the bladder would retain its position without the aid of a pessary.

At length I gently withdrew my hand from the meatus urinaris, being assured that its neck contracted more and more. I ordered the head of my patient to be tied up during four hours, prescribed for her a very restricted diet, and left her. No unto-

ward accident happened to her afterwards, and she was sold, four months subsequently, at the fair of St. Loo; after which the owner lost sight of her.

I would observe, that this reduction was accomplished much more easily than I had supposed that it would have been, and without any injury to the neck of the bladder.

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#### PROTRUSION AND INVERSION OF THE BLADDER, WITH AMPUTATION OF THAT ORGAN.

*By M. LECOQ.*

ON the 7th of May 1831, I was desired to see a draught mare, seven years old, that was about to foal. The usual precursors of that act had appeared, and seemed to announce a difficult parturition. In the mean time she was intrusted to the care of a young man inexpert in the veterinary art. After a protracted labour, she was delivered; the after-birth soon followed, and she appeared to be doing well; but, without the slightest warning, a round dull-coloured body, as large as a double fist, presented itself at the orifice of the vulva, and appearing to be a portion of the vagina. This frightened the young apprentice, who then had recourse to M. Dufour, of Cerisy.

He saw her at eight o'clock in the morning. A dull-coloured, fleshy, pyriform body, as large as a three-pint bottle, and eight or nine inches in length, presented from between the lips of the vulva. It was soft, and its surface presented no irregularity, but some small transverse rugæ. On the hand being introduced into the vagina, it was evident that this body was continuous with it. On separating the leaves of the vulva, on the upper surface of this body, and at a little distance from each other, were two small nipple-formed bodies, of the size of a pea, and from the centre of which, at every effort made by the mare, a slightly coloured fluid was projected. He recognized in them the ureters darting out the urine, and, consequently, the tumour was the bladder turned inside out.

The first indication was to return it to its natural situation and state. To accomplish that, it was necessary to put the mare into a trevis, and to place her with her foreparts lower than her haunches. After vain and long-continued attempts, we found it impossible to effect a reduction of the prolapsus: the struggles of the mare—the constriction and engorgement of the sphincter, and the thickening of the parietes of the bladder, presented insuperable obstacles. M. Dufour then informed the owner of the danger in which the mare was, and induced him to send for me.

On my arrival, on the 9th, I found that the bladder had somewhat increased in size; its colour was of a deep red; rather cold than hot, possessing little sensibility, and having several cracks on its surface. The mare was a little out of spirits, but had eaten the food that was given to her.

After having examined the parts with the greatest care, we determined that a reduction was impossible. In order to save the animal there remained but one resource, namely, extirpation of the organ. We communicated to the proprietor all the accidents which might attend the operation, and the inconveniences that would necessarily follow it, even if successfully performed. He immediately consented that it should be attempted.

Having prepared a strong waxed thread, many times doubled, and to the extremities of which we had fixed two small pieces of wood for the sake of tightening the ligature, we passed it round the body of the bladder, an inch and a half below the orifices of the ureters, and drew the knot as tightly as possible.

In exploring the bladder, we perceived that it contained some fluid; and on cutting into the fundus of it, about three small glasses of light-red serosity, without odour or smell, escaped—the produce of the exhalation from the utero-vesical portion of the peritoneum. We abstracted about nine pounds of blood from the mare, and ordered emollient lotions to the part, occasional injections, and a restricted diet.

12th.—Her health seemed to be scarcely affected by the operation—her efforts to stale were less frequent—the pulse natural—she lay down and got up with ease—the bladder below the ligature was flaccid, livid, and resembling macerated muscular flesh—the parts above, and in the immediate neighbourhood of the ligature, were red and inflamed. Every time that the animal made an effort, the uterers threw out a jet of urine; and in the intervals between these efforts it ran from her continually, without her appearing to feel any pain. A new ligature, tightly drawn, was placed above the old one, at which the parts appeared to be becoming putrid. The same treatment was continued.

18th.—The protruded part was cut off an inch below the ligature, and the exposed surface was washed with camphorated spirit of wine, on account of the putrid smell which proceeded from it. The portion which remained speedily suppurred, and the part was healed in about fifteen days. A month afterwards the animal was put again to work, and did well. In August she was used as a shaft horse, and was fully competent to the work. I chanced to meet her when she was thus employed, and desirous of assuring myself of the state of the organ which had been submitted to such an operation, I introduced my hand suffi-

ciently deeply into the vagina. I could not discover any tumour, nor any alteration whatever; nor would this inspection have enabled me to recognize the amputation which had taken place. But when I examined the inside of her thighs, I observed a line three inches wide, from the vulva to the hocks, forming a kind of scar composed of urinary sediment, and the debris of hair and of skin, and which from time to time became detached, leaving an excoriated surface beneath. The urine ran almost continually.

The proprietor becoming annoyed and disgusted at her appearance, sold her at a low price to a neighbour, which enabled M. Dufour to see her almost daily. The following was her state on the 1st of January, 1832:—

“The thighs are a little excoriated—the vulva somewhat swelled—the urine runs only at intervals, but oftener than in a healthy state, and in a small quantity at a time. The mare assumes the natural attitude in order to urine, and discharges about half a pint at a time. The hair below the vulva is thin, and apt to come off, on account of the flow of urine over the part. The animal is very thin, but which is to be attributed to bad nourishment and excessive fatigue, rather than to her pathological state.”

This case is rare, but not new, since, in the fifth vol. of the “*Recueil de Médecine Vétérinaire*,” a similar one is recorded.

If a veterinary surgeon can be found at the moment of the accident, or a little while afterwards, is it possible to reduce the bladder? Hurtrel D’Arboval says, “that the reduction is necessarily very difficult, perhaps scarcely possible, or, if it could be practised, yet highly dangerous on account of its probable results.” Possibly the learned author of the Dictionary had not opportunity personally to examine any case of the kind. The case reported by M. Devaux, in this volume, shews that the reduction is possible. It must, however, be attempted before the swelling commences. It might, possibly, be effected on the following day, if rash and unskilful means had not been tried, and early and unnecessary thickening of the walls of the bladder or constriction of the sphincter produced.

It follows, from these cases, that the bladder is not so sensible as some have thought, and that it is not necessary to life, since its amputation produces no other derangement in the functions of the animal but incontinence of urine.

*Mém. de la Société Vét. du Calvados II, 219 & 252.*

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## VETERINARY MEDICAL ASSOCIATION,

OCTOBER 27, 1837.

At a Meeting of the Council, held at the residence of the Treasurer,

Professor SEWELL in the Chair,

RESOLVED—That the meetings of the ensuing session of the Veterinary Medical Association shall commence with an Anniversary Dinner.

That this dinner shall take place on Monday, the 20th of November, being the day on which Professor Coleman delivers his introductory lecture.

That it shall be held at the Freemasons' Tavern.

That Professor Coleman, the Patron of the Association, shall be requested to fill the chair on that day.

That the Vice-Presidents of the Association be delegated to act as Stewards, with liberty to add to their numbers.

That an Oration shall be delivered at the Freemasons' Hall an hour before the dinner; and that the President be solicited to deliver the first oration. (The President kindly gave his consent).

That the Oration shall commence at a quarter before five o'clock, precisely; and dinner be on table at a quarter before six. Tickets 20s. each, to be obtained from the Stewards only, and each member of the Association having permission to introduce a friend, whose name he must leave with the Steward from whom he obtains the ticket.

That the Council having resolved to award prizes for the best Essays on certain veterinary subjects, the President shall be requested to announce the subjects of these Essays in his Oration.

## PRESENTATION OF PLATE.

The *Plymouth and Devonport Herald* falling in our way a few days ago, with other provincial papers, our notice was attracted by the following paragraph:—

“We have much pleasure in recording the presentation of a piece of plate to our late respected fellow-townsmen, Mr. E. N. Gabriel, whose exertions as Clerk of the Course to our Summer Races contributed materially in advancing them to their present celebrity, as in our annual reports we have frequently had occasion to notice. It consists of an elegant Silver Coffee Pot, unanimously voted at a meeting of the Race Committee, having the following gratifying inscription:—

*‘This Coffee Pot is given by the Royal Plymouth, Devonport, and Cornwall Race Association, to their Secretary, Mr. Edmund Gabriel, as an imperfect token of their sense of his valuable and successful services, from their first establishment to his much regretted departure from their neighbourhood. Plymouth, Sept. 1st, 1837.’*”

We take some shame to ourselves for not having long ago noticed a course of lectures which Mr. Gabriel delivered at Devonport to the leading sportsmen of that neighbourhood, on the natural history, structure, and pathology of the horse; and also other lectures by him on natural history, anatomy human and comparative, and phrenology, delivered at the Plymouth Institution.

Those with whom we have to do will equally despise the mere book-learned practitioner, and him who has no farther pretension to the use of the horse than certain break-neck and blackguard propensities; but by a union like this, of sterling scientific acquirements, with a love of the horse—a sportsman's love of him—the character and estimation of our profession will be materially advanced.

Y.

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### THE HAMPTON COURT STUD.

THE sale and the dispersion of the contents of this noble establishment took place on the 25th of last month. It was natural that the announcement and the approach of such an event should produce considerable excitement in the sporting world. Some animals of inferior worth had been creeping into this establishment; but there were others that more than redeemed it in the estimation of horsemen, and rendered it worthy of that country in which the powers and qualities of the horse had been most fully developed. There was also something pleasing to the national feeling when the royal name was connected with the breeding of the horse. It gave a powerful sanction to those inclinations and habits which were forming a part of the national character; and it was a guarantee that, although the horse was supposed to be, and was actually deteriorating among us, at least so far as his stoutness was concerned, he would ever, like the British name and the British flag, take the lead among the nations of Europe.

The letter or remonstrance of the Jockey Club did it the highest honour. The dissolution of such a stud was a matter that came home to their business and bosoms; and we could have forgiven them (the real state of the establishment not being then generally known) if they had used somewhat stronger language: but that the affairs of this establishment should be mingled with the political dissensions that unhappily prevail, was highly disgraceful. When it was satisfactorily explained to the public that this was a case in which Her Majesty's ministers could not interfere—that the executors of William IV had no option but to sell—and that as several interests were concerned, they plainly adopted the

most prudent, the only course, by making that sale a public one—then, with mingled wonder and contempt, we read on the one hand the accusations against the ministers of disregard for national feeling and honour, and, on the other hand, the systematic attempt to diminish the reputation and value of the establishment, as an object scarcely worth contending about. It will not, I believe, now be denied, that the course pursued by both parties, and particularly by the latter, tended very materially to diminish the produce of the sale.

The morning of the 25th was exceedingly unfavourable; and although the weather somewhat cleared up about noon, the attendance was not so numerous as might have been expected and wished, and comprised chiefly those who were attracted by curiosity, and who would not contribute in the slightest degree to the increase of the proceeds. That the attendance of the higher classes was very limited, might be expected; for they who are the highest purchasers generally keep themselves behind the scenes.

Our readers will not be displeased if we put them in possession of the prices obtained by the respective lots: it will be a matter of future sporting and veterinary record:—

	<i>Guineas.</i>
1 A Grey Arabian Mare of the purest caste; covered by The Colonel. She had every point of Arab blood about her, and had brought many good foals, but none whose performance was extraordinary.....	50
2 A Grey ditto, of the purest caste (from the Imaum of Muscat); covered by The Colonel .....	150
3 A Grey ditto, of the purest caste (from the Imaum of Muscat); covered by Actæon. To me she appeared to possess more of the Arab character than the former, but she was a flea-bitten mare. This mixture of colour might have raised suspicion of her being actually of the purest caste, or, being covered by Actæon, the progeny was not deemed so valuable. She was knocked down at.....	105
4 <i>Burden</i> , by Camel, out of Maria, by Waterloo; covered by Actæon (mare untried) .....	115
5 <i>Miss O'Neil</i> , by Camillus, out of Birmingham's dam, by Orville; covered by Actæon .....	50
6 <i>Shortwaist</i> , by Interpreter, out of Nancy (the dam of Longwaist), by Dick Andrews; covered by Camel .....	60
7 <i>Zaire</i> , (the dam of Crutch), by Selim, out of Zephyretta; covered by Rockingham (horse untried) .....	36
8 <i>Xarifa</i> , by Moses, her dam by Rubens, out of Pointer's dam, by Woodpecker—Gohanna's dam; covered by Taurus. She was bought for the French Government .....	80
9 A Chesnut Mare, by Oscar, out of Camarine's dam, by Rubens; covered by Actæon. The name of the purchaser of this beautiful animal did not transpire, but it was said that she was destined to remain in England. She sold, perhaps at her full value, for ..	670
10 <i>Fleur de Lis</i> , by Bourbon, out of Rachel (the dam of Magistrate, Minos, &c.), by Stamford, Volunteer, &c; covered by Emilius. Her performances are well known, and she is at the present moment one of the finest mares in England. She was understood to be bought by a French gentleman, for the Duke of Orleans. A few years ago, 1500 guineas were given for her. She now sold, far below her value, for	550

Guineas.

- 11 *Gulnare*, by Smolensko, out of Medora, by Selim; covered by Actæon. Bought by Mr. Fitzgerald, and said to be going to Ireland. She was winner of the Oaks when the property of the Duke of Richmond..... 395
- 12 *Jewess*, by Moses, out of Calendulæ (the dam of Burgundy, &c.), by Camerton; covered by Plenipotentiary (horse untried) ..... 200
- 13 *Nanine* (Glaucus's dam), by Selim; covered by Emilius. There were many competitors for this splendid mare, and she still remains an ornament of our country ..... 970
- 14 *Wings* (the dam of Caravan); covered by Actæon and Camel. She is also said to be destined to enrich the French stud ..... 609
- 15 *Scandal* (Intriguer's dam, by Selim, Haphazard, Precipitate, &c.; covered by The Colonel ..... 400
- 16 *Lady Sarah*, by Tramp, dam by Cervantes; covered by Actæon. This and the preceding mare remain with us ..... 260
- 17 *Rachel*, by Whalebone, out of Moses's dam; covered by Actæon. Bought for the French Government..... 180
- 18 *Lady Emmeline*, by Young Phantom, dam by Orville—Buzzard, &c.; covered by The Colonel ..... 300
- 19 *Sarah*, by Whisker, out of Jenny Wren, by Young Woodpecker, &c.; covered by Actæon. Said to be purchased for Lord Henry Seymour, to enrich his stud, in the neighbourhood of Paris ..... 300
- 20 *Galatea*, by Amadis (the dam of Recruit), her dam, Paulina, by Sir Peter, &c.; covered by The Colonel..... 105
- 21 *Young Mouse* (the dam of Rat-trap, &c.), by Godolphin, out of Mouse, &c.; covered by Actæon. Also bought by the French gentleman ..... 360
- 22 *Maria*, by Waterloo, out of Belvoirina, by Stamford; covered by Actæon. Destined for Germany. She is a beautiful mare, on a somewhat small scale; and, in the opinion of Nimrod, her form is perfect, particularly as it regards the shoulder and the position of the fore-leg. She was a great favourite of George IV..... 170
- 23 *Variella* (sister to Voltaire), by Blacklock, dam by Phantom, &c.; covered by The Colonel ..... 180
- 24 *Delphine*, by Whisker, dam, My Lady, by Comus, out of The Colonel's dam, &c.; covered by Plenipotentiary (horse untried) ..... 360
- 25 *Locket*, by Blacklock, dam, Miss Paul, by Sir Peter, &c; covered by Rockingham (horse untried). Purchased for Lord Henry Seymour... 200
- 26 *Peri* (the dam of Sir Hercules), by Wanderer, &c.; covered by The Colonel 210
- 27 *La Danseuse*, by Blacklock, dam, Madame Sacqui, by Remembrancer, &c.; covered by Actæon. Purchased for the Duke of Holstein ..... 380
- 28 *Ada* (sister to Augusta), by Woful, her dam by Rubens. Guildford, &c.; covered by Rockingham (horse untried). Destined for Sweden ..... 120
- 29 *Marpessa*, by Muley, out of Clare (the dam of Flatterer, &c.), by Marmion—Gohanna, &c.; covered by Camel ..... 230
- 30 *Sultana* (sister to Sultan), by Selim; covered by The Colonel ..... 120
- 31 *Spermaceti*, by Whalebone, dam by Gohanna—Catherine, by Woodpecker, &c.; covered by Glaucus (horse untried)..... 105
- 32 *Lceway*, by Aladdin, out of Johannah Southcote (the dam of Variation, &c.); covered by Taurus. To be sent to Ireland ..... 220
- 33 *Black Daphne*, by Juniper, dam, Spotless, by Walton; covered by The Colonel. To be sent to Ireland ..... 190
- 34 *Young Espagnolle*, by Partisan, out of Espagnolle, by Orville, &c.; covered by The Colonel. Bought for the French Government ..... 220
- 35 *Elizabeth*, by Rainbow, out of Belvoirina; covered by Taurus. Destined for Germany—for the stud of Baron Maltzahn ..... 84
- 36 *Codicil* (dam of Heiress), by Smolensko, out of Legacy, by Beningbrough, &c.; covered by Camel ..... 200
- 37 *Sister to Sailor* (Cloudesley's dam), by Scud, out of Goosander, &c.; covered by Rockingham (horse untried). For Baron Maltzahn..... 110
- 38 *Miss Clifton*, by Partisan, out of Isis, by Sir Peter; covered by Plenipotentiary (horse untried) ..... 100

	<i>Guineas.</i>
39 <i>Miss Craven</i> , by Mr. Lowe, dam by Soothsayer, Buzzard, Highflier, &c.; covered by Glaucus (horse untried) .....	150
40 <i>Aricia</i> , by Rubens, out of Diana (the dam of Actæon), by Stamford, &c.; covered by Rockingham (horse untried) .....	77
41 <i>Belvoirina</i> , (the dam of Elizabeth, Maria, &c.), by Stamford, Mercury, Herod, &c.; covered by the Black Arabian (horse untried.) This old mare, the <i>mater familiâs</i> as Nimrod calls her, seems to be destined to end her days in her native country.....	55
42 <i>Palatine</i> , (sister to Arachne), by Filho da Puta, out of Treasure, by Camillus, &c.; covered by Actæon .....	90
42* <i>Icaria</i> , (the dam of Sarpedon), by the Flier, out of Parma, by Dick Andrews, &c.; covered by Buzzard (the sire of Bentley, &c.) Bought by the French gentleman, supposed for the Duke of Orleans.....	61
43 A chestnut colt, by Actæon, out of Wings (the dam of Caravan.) This beautiful little animal, has had the distemper exceedingly severely, and is blind in consequence of it. Before its illness it was expected to have fetched from 300 to 400 guineas, it sold for.....	46
44 A bay colt, by Doctor Syntax, out of Sarah, by Whisker .....	190
45 A colt, by Plenipotentiary, out of Zaire, by Selim (the dam of Crutch) ...	110
46 A chestnut colt, by Actæon, dam by Oscar, out of Camarine's dam .....	150
47 A chestnut colt, by Actæon, out of Scandal (the dam of Intriguer) .....	105
48 A brown colt, by Mulatto, out of Lady Sarah, by Tramp .....	80
49 A bay colt, by Mulatto, out of Lady Emmeline, by Young Phantom, dam by Orville, &c. This colt excited considerable admiration from its peculiarly animated countenance, and light and springy gait .....	105
50 A brown colt, by The Colonel, out of Mouse, by Godolphin (the dam of Rat-trap) .....	200
51 A brown colt, by The Colonel, out of Black Daphne, by Juniper, out of Spotless. This beautiful colt, the superiority of which was universally acknowledged, was said to be purchased by Lord Chesterfield .....	210
52 A chestnut colt, by Rubini, out of Galatea (the dam of Acis, Recruit, &c.); horse untried .....	62
53 A chestnut colt, by Actæon, out of Locket, by Blacklock, dam by Sir Peter, &c. ....	37
54 A bay colt, by Glencoe, out of Shortwaist, by Interpreter, out of Nancy, (Longwaist's dam); horse untried .....	105
55 A brown colt, by The Colonel, out of the first Arabian mare (mare untried) These colts, (54 and 55) are said to be destined for foreign service, but the precise route which they would take was not divulged.	71

## FILLY FOALS OF 1837.

56 A chestnut filly, by Actæon, out of Gulnare (winner of the Oaks) by Smolensko, dam Medora, by Selim, &c.....	63
57 A brown filly, by Camel (out of Cloudesley's dam), sister to Sailor .....	165
58 A chestnut filly, by Cain, out of Elizabeth, by Rainbow, out of Belvoirina, by Stamford .....	81
59 A bay filly, by Plenipotentiary, out of Rachel, by Whalebone, &c.; horse untried .....	69
60 A bay filly, by Cæsus, out of Variella (sister to Voltaire) .....	71
61 A bay filly, by The Colonel, out of Young Espagnolle, by Partisan, out of Espagnolle, by Orville, &c. This filly was said to be purchased for foreign service .....	70
62 A bay filly, by Rubini, out of Spermaceti, by Whalebone—Gohanna—Catherine, by Woodpecker, &c. (horse untried) .....	46
63 A bay filly, by Rubini, or Cain, out of Sultana (sister to Sultan) .....	70
64 A bay filly, by Glencoe, out of Marpessa, by Muley (both untried) .....	62
65 A filly, by Actæon, or Cain, out of Delphine, by Whisker, out of My Lady, by Comus, out of The Colonel's dam .....	26
66 A chestnut filly, by Cain, out of Codicil (the dam of Heiress), by Smolensko—Legacy, by Benningbrough—Sir Peter, &c.....	31

*Guineas.*

67	A chestnut filly, by Cain, out of Ada (sister to Augusta) by Woful, dam by Rubens, &c. ....	30
68	A chestnut filly, by Cain, out of Burden, by Camel, out of Maria, by Watterloo; mare untried.....	33
69	A chestnut filly, by The Colonel, out of Miss O'Neil, by Camillus, out of Birmingham's dam, &c. ....	70
70	A bay filly, by Camel, out of Xarita, by Moses, dam by Rubens, &c. ....	40
71	A chestnut filly, by The Colonel, out of La Danseuse, by Blacklock, &c....	51
72	A chestnut filly, by Actæon, out of the second Arabian mare (mare untried)	58
73	A bay filly, by The Colonel, out of the third Arabian mare (mare untried)	76

## THE FOLLOWING WELL-KNOWN STALLIONS, &amp;c.

74	THE COLONEL, by Whisker, dam by Delpini, her dam, Tipple Cider, by King Fergus—Sylvia, by Young Marske. He is a sure foal-getter, and the sire of Post-haste, Lieutenant, The Drummer, Heiress, Arsenic, Recruit, Skirmisher, Toothill, Cobham, D'Egville, &c. The stock of The Colonel won 37 times in 1836 .....	1,550
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This horse was the chief attraction and glory of the day. The following is the animated description of the Reporter of the *Times*. "It was nearly half-past four when the sale of the young ones was concluded; but for some minutes previously it was impossible to keep the attention of the company fixed upon the fillies offered for sale, owing to the impatience everybody felt to see The Colonel, whose loud neighing proclaimed to the field that he had left the stall in which he is usually kept. In front of the boxes in which the stallions are lodged is a wall from eight to nine feet in height; above the top of this wall the head and chest of The Colonel were ever and anon seen, as he was prancing and rearing under the care of his keeper. A notion had got abroad that The Colonel is a wild ungovernable horse, of very bad temper; but nothing can be more erroneous. To his trainers he is mild and tractable, though unquestionably, if any one injures or offends him, he is in the habit of remembering and resenting it. As soon as it became known that his cloths were off, and that he was in the yard before his box, a rush was made to the gate from which he was to enter into the paddock, and the walls were crowned with individuals, whose eagerness to see this gallant steed could no longer be repressed. A dense crowd was also pressing against the gate; but no sooner was the gate opened, than the rapidity with which the members of it retreated before The Colonel was perfectly astounding. At every step he formed the ground around him, and as he came in front of Mr. Tattersall's rostrum, it was delightful to see the vast circle which he cleared for himself amid the admiring spectators. Nothing could be more magnificent than his appearance; it was a wonderful combination of strength, and speed, and power; and every man present felt that it would be a loss to the country, if such a horse were allowed to leave it. He is, indeed, a perfect realization of Virgil's picture of the charger:—

'Stare loco nescit, micat auribus, et tremit artus,  
Collectumque premens volvit sub naribus ignem.  
Densa juba, et dextro jactata recumbit in armo.  
At duplex agitur per lumbos spina: cavatque  
Tellurem, et solido graviter sonat ungula cornu.'"

The first bidding was 1,050 guineas; then 1,150; then 1,250; then, without a pause, 1,350; then, a slight pause, 1,450; then, after a minute's time, Mr. Tattersall bade 1,550; and then, after another minute's time had fully elapsed, the hammer fell, and he became the auctioneer's own property, and will continue to cover at Mr. Tattersall's farm, at Dawley, near Uxbridge.

The Colonel came out in 1827, when he won the Two Years Old Stakes of 20 sovs. each, (10 subs.) at Heigh Park, beating Kitty; a colt by Tramp, Au Mancruwe, and a black colt by Whisker.

Guineas.

In the same year, he carried off the Two Years Old Stakes, at Pontefract, of 20 sovs. each, beating Vanish, and the Champagne Stakes of Doncaster, of 50 sovs. each, beating a filly by Black Leg.

In 1828, he ran a dead heat with Cadland for the Derby, beating Zinganee and twelve others; but he lost the second heat. He also won the St. Leger, at Doncaster, beating Belenda, Velocipede, and seventeen others, and walked over for the 200 sovs. Stakes at the same place. (8 subs.)

In 1829 he was beaten at the York Spring Meeting by Bessey Bedlam, in a match for 300 sovs. each, at St. Leger Course, and started, but was not placed for the Gold Cup at Ascot, being beaten by Zinganee and Mameluke.

In 1830 he won the Craven Stakes of 10 sovs. each at Epsom, beating Harold, Clio, and eight others; and ran second for the Gold Cup at Ascot, being beaten by Luetta, but beating Green Mantle and Zinganee.

He won a Sweepstake at Stockbridge of 5 sovs. each, beating Morris Dancer, Tyke, and two others; and ran third for the Gold Cup at Goodwood, being beaten by Fleur de Lis and Zinganee, but beating Green Mantle, Lady Emily, Refuge, Glenoctary, Tranby, and Hindoo.

In 1831 he won the Craven Stakes at Epsom, beating Fortitude, Mahmoud, Achilles, and four others; and ran a dead heat with Mouch for the Oatlands at Ascot, being afterwards beaten by her. Here he broke down, and was never afterwards started. The enlargement of the fetlock and the marks of the iron still remain.

75 ACTÆON, by Scud, out of Diana, sister to Emily (the dam of Emilius), by Stamford, her dam by Whisky, out of Gray Dorimant, by Dormant, &c. He is a sure foal-getter, and the sire of General Chassé, The Stag, Burletta, Golden-drop, Miss Margaret, and many others ..... 920

This is a splendid animal, and gives the spectator a noble idea of the modern race-horse in his prime. It is worth travelling many a mile to study the contrast between him and The Colonel. The unwearied strength of the one and the speed as well as strength of the other are beautiful. What a noble animal would The Colonel have made, and how valuable would have been his progeny, had he been used only as a hunter!

Actæon was bought into the stud at the price of 1000 guineas. He is now the property of Baron Maltzahn.

76 The high-bred BLACK ARABIAN of the purest caste, from the Imaum of Muscat. This horse has covered several mares this season ..... 580

77 The high-bred BAY ARABIAN of the purest caste, from the Imaum of Muscat. This horse has also had some mares this season ..... 410

Much fault has been found with these horses, and particularly with the bay horse, by some persons who are perfectly unable to judge of the matter. It has been said that they are not of the purest blood, and that the bay is a Barbary horse. One glance from the practised eye at the head and forehead of the black will leave no doubt in the mind. It is the most beautiful object of its kind that was ever seen. The bay, however, taking him altogether not so striking in his figure, was a stronger, and a speedier, and a better horse. The black, as the prices will shew, was the general favourite. The black horse was bought for the King of Wirtemburgh, and the bay one for the French Government.

78 BLOOD ROYAL, a bay stallion, by Royalist, dam by Sir Harry Dimsdale, grand-dam by Vivaldi: of great strength and power; has covered—his stock very promising ..... 96

79 A bay gelding, rising 2 years old, by Rubini, out of a well-bred mare..... 35

80 A gray gelding, rising 2 years old, by Pasha, out of a well-bred mare..... 46

These horses were bought to be sent to Grenada; and thus ended the sale.

The brood mares sold for 9568 guineas, and the colt foals for 1471 guineas; the filly foals for 1112 guineas, and the stallions and two half-bred colts for 3541 guineas: making, in the whole, 15,692 guineas.

It will be seen that some of the best of the horses yet remain in our country. With the Oscar mare, Nanine, Scandal, Lady Emmeline, Delphine, and some other of the brood mares, and with all the youngsters, excepting one or two, and with The Colonel, there is sufficient stock for the preservation of our best breed; and the sale of this certainly noble collection will ultimately do us no material mischief. But we are far transgressing our limits.

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## Miscellanea.

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### CHARLATANISM.

DURING the months of February and March, 1824, a sadly destructive enzootic prevailed amongst the lambs of a certain farmer in Magny. As every unusual calamity is attributed to supernatural causes, the farmer asserted that a spell was cast upon his lambs,—that they were bewitched, and so said all his neighbours. Fearful that they would all perish, he eagerly sought for a remedy—and of what kind? A certain individual had acquired celebrity of a peculiar kind, by certain acts of legerdemain (*de passe passe*) which were attributed to him—such as preventing certain youths from being drawn as conscripts,—marrying certain girls to the young fellows for whom they were dying of love,—curing horses of colic, &c.

It was easy to imagine that such a person would win the confidence of the credulous farmer.

Towards the end of March, at an early hour in the morning, the farmer mounted a little pony, and galloped away to the residence of the sorcerer, to whom he unfolded all his troubles. The wise man consented to go with him, and ascertain the extent and the cause of the evil; but it was necessary first to breakfast, for these operations will never succeed if undertaken on an empty stomach.

This being despatched, they started. They visited every locality; and, after carefully examining each, and pondering deeply, our doctor affirmed that the mortality of the lambs was the result of a spell that had been cast on the animals, and that the charm was probably deposited somewhere in the sheep-house, by a deadly enemy of the farmer—that by the power of his art he would discover the wretch, and, more than this, he would shew him to the farmer, if such was his pleasure—but that it was high time to break the charm, for the spell was of that kind, for as soon as the lambs were all dead, would come the turn of the farmer. This produced a strange effect through-

out the whole of the farmer's establishment : every one thought that his turn would come first ; and they supplicated our wizard to employ all his art to prevent these calamities from coming upon them. He promised every thing they wished, and only asked that they would give him until the following day, in order to prepare himself for the great undertaking. The neighbouring inhabitants, and all their relations and friends, were not slow in being informed of all that was passing at the farm ; and they all determined to witness the marvels that were to be exhibited on the morrow.

At length the great day arrived. At eight o'clock in the morning, the enchanter arrived, dressed in his Sunday clothes, and his countenance illumed as if he had already swallowed not a few glasses of *eau de vie*. Breakfast immediately commenced—an indispensable preparation for all these matters—when they all betook themselves to the neighbourhood of the sheep-house. Everybody about the farm was immediately put in requisition,—prongs, and pitchforks, and various other instruments, and even spits, were in active use. Every person was employed in turning over heaps of litter and dung, and spreading them almost fibre by fibre before the sorcerer. Nothing satisfactory was found. Then they entered the sheep-house, and the same process commenced ;—they searched every part and corner of it ; the interstices in the walls, the mangers, and under the threshold of the door. Nothing was found. The curiosity of the bystanders was perfectly disappointed, and some murmurs of impatience began to be heard. The sorcerer now exclaimed, “ I know where it is—the spirit has this moment revealed it to me.” He then took the bed and the palliasse of the shepherd, and dragged them out of doors ; and while he was doing this, a little oblong body appeared in the middle of the straw. It was no sooner visible, than the sorcerer threw himself on his belly upon it, before his astonished assistants, and exclaimed, “ I have got the charm, my friends, and I'll keep it fast ;” and he eagerly grasped it, and buried it in his bosom. He then ordered a large boiler to be filled with pure water, and placed over a tremendous fire, and he placed the charm in it, and threw a vast number of stones upon it, until it was no longer seen ; and he kept the vessel boiling a full hour. During the whole of this time, he abused the supposed author of the evil with the most horrible language and grimaces, striking at him, and at times seeming to seize him with his teeth.

This farce being concluded, he had the impudence to offer to shew them the author of all this evil. They had already been sufficiently frightened, and refused ; doubtless to the great satis-

faction of our magician, who would, certainly, have been not a little embarrassed if his proposition had been accepted.

All this being concluded, he lifted the boiler from the fire—took out the stones—poured away the water, and, seizing the charm, placed it in his pocket; assuring them that its power was destroyed, and that the malady of the lambs was destroyed. Nothing remained for the credulous farmer, but handsomely to pay the performer of all these wonderful things.

It may be supposed that the farmer and his friends were anxious to see what this fearful charm could be. It was simply a piece of wood, in the form of a cone, with some cabalistic letters and characters engraved upon it.

The winter and spring of 1824 were very rainy—the ewes had been very badly fed—they had been pastured in low, marshy places, where the grass afforded but little nutriment; and the milk being poor and serous, it produced a collicative diarrhœa, to which the lambs had fallen victims.

A predisposing cause of this complaint was the immense quantity of dung which the sheep-house contained, and which rendered it exceedingly unhealthy.

These circumstances, separately or united, were the cause of this enzootic; but when the weather changed, and the atmosphere was no longer charged with humidity, and the nourishment of the ewes being more abundant and of better quality, the mortality ceased.

*Mém. de la Soc. Vét. du Calvados*, tom. ii, p. 387.

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### THE DEAD DONKEY.

“They mourn me dead in my father’s halls.”

HE was stretched at full length beside the ditch where he died.

A half-finished house in the background seemed to rejoice in the fate of the poor animal; maliciously displaying a board, whereon was lightly written “THIS CARCASE TO BE SOLD.” The sturdy thistle reared its head in his vicinity, fearless of the donkey’s pluck.

The crows, like a lot of lawyers at the funeral of a rich man, were hovering near. They threatened to engross the whole skin, and make away with the personal property by conveyance.

The deceased, they knew, could not resist their *charge*, nor did they apprehend their *bills* would be taxed by the master.

Alack! Alack! that he who had carried many a bushel should thus fall beneath their *peck*! The well-worn saddle

(like many a *better*) had gone to *back* some other favourite of the *race*!

The reins too were gone—yes! his disconsolate master, like a drunken man, *had slipped off the curb*!

Woe! Woe! but what avails it crying woe to a dead donkey?—Were I thy master, I would have thy portrait taken. How many an *A double S* is drawn by an *R. A.*! There is a placid docility about thy head that might supply Gall or Spurzheim with a lecture; but no *cast* remains to immortalize thee—albeit thy master in thy life made many an *impression with whacks*.

Like a card-player, thou has cut the *pack*, and left it in the hands of the *dealer*.

Unlike thy ragged brethren that run loose upon the common, exposing their *ribs* (as vulgar husbands do their wives in general company), there is a plumpness and rotundity in thy appearance, that plainly proves thee no *common* donkey!—the smoothness of thy coat, too, shews thy owner's care.

He doubtless liked thee (as Indians do their food) *well curried*!

“Farewell, *Edward*,” I exclaimed, too serious on the occasion to use the familiar epithet of *Neddy*!

I heard footsteps! I saw a man approach the spot I had just quitted. He was a tall raw-boned looking gipsy. Concealed from observation by the intervening hedge, I watched his motions.

I saw him stride across the poor animal; drawing a clasp knife from his breast, he looked wistfully around him. I had often read of famished Russians devouring their horses! What did he meditate?

Keen hunger was depicted in his sharp countenance!

The vagrant wielded his knife. I stood breathless—the next moment—I saw him cut a huge *stake*.

“From the donkey?”

No; from the adjoining hedge!

*Comic Offering.*

#### BREAD FOR HORSES.

EXPERIENCE has proved that 1000 kilogrammes (2214 lbs. avoirdupois) of oatmeal will serve to make 480 loaves, which, at two loaves per day, will keep a horse 240 days much better than 6000 kils of crude oats. There would then be much economy in feeding horses with oat-bread, and which might be rendered more nourishing by mixing with it a little rye. It could be prepared in the form of cake, like sea biscuit, and thus might be kept a long time, without any of its nutritive properties being lost.

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## ANIMAL PATHOLOGY.

*By Mr. YOUATT.*

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### LECTURE XVI (*continued.*)

#### *Rabies in Cattle.*

**CATTLE.** *Premonitory Symptoms.*—We will now turn to the ruminant. It is not often that the veterinary surgeon has the opportunity of observing the early indications of this malady in the ox; but on inquiry he will almost invariably find that there had been sufficient warning. The animal loses his usual activity and spirits—he scarcely touches his food, or he turns from it with loathing—he separates himself from his companions—his countenance indicates mingled sullenness and fear—his eyes are red—an adhesive spume drivels from his mouth, and his lowings, which are frequent, have a peculiar plaintive melancholy expression. The flanks are heaving with a greater or less degree of violence—he frequently lies down—he is dissatisfied with his resting place—he wanders about with his ears singularly depressed—he labours under considerable thirst, and eagerly drinks the water that is offered to him or placed within his reach. This singular group of symptoms would naturally excite suspicion of his actual case, although the owner might not know that the animal had been bitten by a rabid dog. This state will continue at least twenty-four hours, and, very probably, if it be a cow, she will quietly submit to be milked by the owner's dairy-maid or cow-herd.

*Symptoms of the more advanced State.*—More decisive appearances will, however, be presently observed, and they will much resemble the progressive development of the disease in the dog. The sleepy closing eye will particularly attract attention. The beast will seem to be sleeping as it stands, and the head will

droop, and droop—but all at once, at the slightest touch, or at the near approach of any one, the animal will suddenly rouse himself up, and the eye will become wild and fiery, as if it were starting from its socket. As plainly and as palpably as in the dog, he will trace the path of some imaginary object. Now, too, will come the decided change of voice: it is as marked as in the rabid horse. “She bellowed loudly,” says Mr Tombs, of Pershore, describing a rabid cow on which he had attended, “and very peculiarly, the tone of voice being the most singular I ever heard.” Every time the beast rouses from his fit of abstraction or half-sleepiness this bellowing is heard, and, having once been heard, it can never afterwards be mistaken.

Contemporaneous with this is the singularly altered appetite. I have said that the animal is at first indifferent to food, or turns from it with loathing, and the desire for wholesome food does not often return; but that which it will still eagerly devour is its own dung, or that of its companions. “At one time,” says Dr. Ashburner, describing a rabid cow at Weston, near Bath, “she was seen attempting to eat a little hay, but it was soon vomited again. She then voided a small quantity of black hard dung, to which she turned round, and in a short time ate it up.”

The temper is now changed to a greater or less degree, dependent on the previous habits and character of the patient. Mr. Tombs describes a cow that, when a hen came by chance into the shed in which she was, ran at it, and pawed the litter with her fore feet; but he adds, “this was the only time in which she appeared to be in the least excited.” The case at other times is very different: the animal pursues its companions, bellowing and butting with the greatest fury; or it rushes ferociously at every person and every object within its reach. Generally speaking, however, although there is the highest state of excitement, there is no selection of objects, as in the dog. I once saw a bull standing across a path in a meadow, bellowing incessantly and tearing up the ground with his horns; but he made no attempt to get at those who were watching him with some degree of alarm on the other side of the gate. There is no treachery as in the dog, and occasionally in the horse, in order to lure some victim within its reach. Although there may be considerable mischief done, there is no clearing of the whole of the interior of the stable. He must often be roused into his fits of fury, although it must be acknowledged that it does not require a great deal of trouble to effect this. A bucket of water is lowered into the stable; he plunges at it, and overturns it long ere it reaches the ground; and when the water is splashed about and comes upon him, he suddenly falls into violent convulsions. A piece of wood is let

down: he runs eagerly at it and tosses it about. It makes no difference what is the object; if a hat is shewn from the windows or over the partition in the stable, or a lock of hay is presented to him, he rushes at either of them, and demolishes it in a moment, or, if it is withdrawn, he tears up the ground with his feet. He works himself into a perfect fury—dreadful convulsions agitate every limb, and he falls, struggles violently for awhile, and then scrambles up again, goes to some favourite corner in the stable, and there stands trembling. In the course of a few minutes the eyes close, and the head droops, and the animal closes on, until either the paroxysm returns of itself, or he is roused by some accidental noise.

*The Dread of Water.*—I do not think that this has ever been unequivocally observed in cattle. It is true that Dr. Ashburner speaks of a rabid cow falling into violent convulsions when water was splashed upon her; and Mr. Bainbridge says that, a pailful of water being set before another cow similarly affected, she plunged her nose into it as if to drink, and suddenly withdrew it, and seemed convulsed and unable to swallow. Mr. Pritchard states, as I have just related, that, although a cow, when a pail of water was lowered into the stable, became excited and convulsed, the same derangement was produced if a hat or even a lock of hay was exhibited. We should not, however, be warranted in concluding that there is no dread of water in rabid cattle, because out of a hundred-fold more cases of rabies in the dog, the instances have been few and far between in which the slightest degree of hydrophobia was witnessed. Certainly, comparing the numbers together, we should have no right to expect, among the few cases that are recorded, a single one in which the characteristic symptom of rabies in the human being would be found. There was, nevertheless, palsy of the muscles of the lips and mouth in Mr. Bainbridge's case—there was no difficulty in swallowing the medicine after it was poured into the cow's mouth, but she could not take any water from the pail: while in the patient of Mr. Pritchard, "the pharyngeal muscles frequently contracted, giving a kind of gulping action to the throat, as if to force something down:" and in the case of Mr. Tombs, when water was offered to her, she made several ineffectual attempts to swallow it. On the whole, although there is some difference of symptoms, there is sufficient resemblance to warrant us in considering the disease as essentially the same in the dog and the ox.

*Cutaneous Sensibility.*—You have often heard of the universal tremor or horrible paroxysm which a current of air will produce in the human patient. "I was much interested," says Mr.

Pritchard, "in observing the effect of the wind, which was high and very cold at that time, upon her. She was screened from it by a wall; but when she lifted up her head, and the blast blew in her face, there was a spasmodic twitching of the superficial muscles passing over her in tremulous undulation."

*Affection of the Generative Organs.*—I have now to speak of symptoms of rare occurrence in the human being, the dog, and the horse, but frequently observed in cattle. Instances of priapism in the male of the human species, and of furor uterinus in the female, are certainly on record. In the dreadful disorder of all the mental and moral faculties by which this disease is sometimes characterized, who can say what instinct or sentiment may not be morbidly and disgustingly increased? I would not refer to this while treating of the dog, because I knew that I should have more to say of it when rabies in cattle came under consideration. In a very few cases this animal feeling has been strangely increased in the dog. Every female of the same species, whether or not under the influence of œstrum, is attacked; and with the true character of the disease, the ferocious dog, whether his ferocity is natural or acquired, is no sooner parted from his paramour than he attacks her with the utmost fury, and literally tears her to pieces. The rabid horse has broken into the paddock of the mares, and annoyed, or injured, or destroyed some of them in the fury of his love or of his rage. This is still oftener the case in the animals now under consideration. The bull, the ox, and the cow, occasionally labour under the morbidly increased influence of the sexual passion in the early stage of rabies; and where the cattle, as in the wilder parts of the United Kingdom, and particularly in some foreign countries, are suffered to range at large on the mountains or the moors, strange disorder and mischief have happened in the herd from this cause. It is, however, far from being a general symptom. It does not occur to any great extent in one case out of a dozen, but more in foreign countries than in ours.

*Tenesmus and Strangury.*—In the human being it is seldom that the alvine secretions are much disturbed, nor are they in the dog, except that there is frequently very obstinate costiveness, or the feces are principally composed of the strange matters which a rabid dog alone will eat. Under the partial paralysis which accompanies the later stages of rabies in the domestic quadrupeds, the sphincter of the anus is seldom affected. It is occasionally so in the horse, but distressing tenesmus is rarely seen. I described a case of it in the ass in my last lecture. Tenesmus, however, almost invariably accompanies the closing scene of this

malady in cattle. In addition to this is strangury of the most distressing kind. The poor beast bows his back, and strains and moans as his urine is evacuated almost drop by drop.

At length comes, in the ox as in all the other quadruped patients that have passed in review, palsy, always affecting the hinder limbs, and frequently involving the whole of the frame. If the animal is suffered to linger out a miserable existence, the last or the two last days exhibit utter loss of power to rise, or, indeed, to do more than to struggle more or less violently with her fore legs, or to throw back the head on the side, speaking of some internal suffering there, or seeming to implore that relief which the attendant is unable to afford.

*Rabies in the Sheep.*—We are indebted to Mr. Harris, of Bromyard, for one of the best accounts on record of madness in the sheep. An early and a very prevalent symptom is a strange excess of sexual feeling. They follow and ride each other about, ewes, ewe-lambs, and wethers, and this sometimes continues during a couple of days. Mr. Harris says three or four days; but I have never seen it last so long. Sometimes the œstrum ceases for awhile, and they feed almost as usual; then, all at once, the paroxysm returns, and the field becomes a scene of the strangest confusion.

When this symptom does not appear, and often at intervals when this ungovernable propensity is seen, the sheep exhibits considerable ferocity. He will violently attack his companions; he will rush against a tree, a gate, or a wall, and will not cease until his frontal bones are laid quite bare. Various phantoms are evidently disturbing him, from which he retreats with terror, or on which he rushes with fury. It is seldom, however, that he exhibits the ungovernable ferocity of the dog. He will nibble or angrily seize a stick presented to him, or he will tear the clothes of those by whom he is held; but it is seldom that his violence much exceeds this, so far as the human being is concerned.

During the first two days he will occasionally feed, although, after about twenty-four hours have passed, the grass drops again from his mouth, not half masticated.

His appetite is often strangely depraved—he will eat his own dung, or that of the horse or cattle—he will eagerly drink the filthiest drainings from the dung-heap, and he will gather up dirt by mouthfuls. With the exception of this liking for filthy water, he rarely exhibits any increased thirst, and in no instance have I seen the slightest dread of water.

Usually during the second day there is a discharge of ropy saliva from the mouth, and which the sheep occasionally makes violent efforts to get rid of.

His strength rapidly wastes after the first two days have passed ; but the state which succeeds varies materially in different animals. The ewes, and especially those that have milk in their teats, become paralytic. They first find some wall or tree, against which they push their heads, thus supporting the principal part of their weight. They push against a hedge until they have bored their way through it—they fall on their knees, and rest their muzzle upon the ground. Almost universal palsy is then not far distant.

With wethers the case is different. They have the same stupor—they, too, press their heads, and support their weight against some object that lies in their way ; but to this succeed convulsions, sometimes confined to particular limbs, and at other times extending over the whole frame. The palsy and the occasional convulsions last from twenty-four to thirty-six hours. The bleating, and particularly of the lambs, during the latter stages of the disease, is exceedingly plaintive.

*Rabies in Swine.*—The symptoms of rabies in the hog are peculiarly interesting from the near resemblance of many of them to those of the human being. There is previous dulness and indisposition, and the pig is continually employed in licking or rubbing the bitten part. I dare not say that dread of water next follows ; but in one of the cases recorded by Mr. Gilman, and still more decidedly in one that I saw, the animal went to the trough, and smelled at the food, and brought his nose nearly in contact with it, and then he started back, and pointed his muzzle in the air, and trembled violently from head to foot. In an after-stage, he will, perhaps, attempt to take pieces of meat and vegetable from the wash ; but he sets to work with a great deal of caution, and the attempt is always accompanied or followed by a universal rigor, during which the parcel of food drops again from his mouth. In a still later stage of the disease this caution is no longer observed. The animal will make repeated attempts to drink, but will be unable to accomplish its purpose. There is affection of the organs of deglutition, but no dread of the fluid.

There is the same dread of imaginary or of real objects, and the patient buries himself as much as possible in his litter. There is, combined with this, increased sensibility of the skin, for the poor animal will squeal as if he were being murdered if any one touches or even approaches him. He will scream with agony if the mother attempts to lick it. If any sudden noise is made, it springs three or four feet high, dashes itself against the wall or the roof of its sty, and then falls into horrible convulsions.

These spasms frequently occur without being produced by any external cause. Mr. Gilman says of one that he saw, that it started and threw itself about in a most extraordinary manner. Sometimes it sprang at least three feet from the ground, and beat itself forcibly against the wall, and at other times it ran round on its hind legs like a dog. This continued until the animal was exhausted, when it would fall down and pant, but soon again become convulsed, leaping from the ground as before, and falling with considerable violence on his back or sides.

No disposition to do mischief has yet been observed in the rabid pig. This is singular when his occasional ferocity in a state of health is considered. Mr. Gilman describes a rabid sow, as coming from her bed when called, and going up to his very feet, without attempting to injure him. It is true, there are not many cases of rabies in the pig on record; but those which are related perfectly agree in this particular. If, however, there is no ferocity, there is much suspicion. The anxious searching eye sufficiently indicates this; and at times it is so suddenly lighted up—there is such a ferocious glare—that we are led to imagine the pig would not always be so harmless as we have hitherto found him to be.

In the eagerness with which he devours every filthy and disgusting substance within his reach he fully equals the dog. His own litter and excrement are generally swallowed; and when he has a little respite from his convulsions, and his strength is not quite wasted, he is diligently employed in turning up the ground in the dirtiest situations that he can find.

It is rare that rabies in the pig terminates in paralysis. Much oftener dreadful convulsions rapidly succeed to each other, until the strength of the animal is exhausted.

*Rabies in the Cat.*—Fortunately for us, this does not often occur, for a mad cat is a truly fearful animal. I have seen two cases, one of them to my cost; yet I am unable to give you any satisfactory account of the progress of the disease. The first stage seems to be one of sullenness, and which probably would last to her death; but from that sullenness it is dangerous to rouse her. She probably would not, except in the paroxysm of rage, attack any one; but during that paroxysm she knows no fear, nor has her ferocity any bounds.

I was desired to call on the daughter of one of our best novelists and poets. A cat that had been the inhabitant of the nursery, and the playmate of the children, had all at once become sullen and ill-tempered. It had taken refuge in an upper room, and could not be coaxed from the corner in which it was crouched.

It was nearly dark when I went. I saw the horrible glare of her eyes, but I could not see so much of her as I wished, and I said that I would call again in the morning. I examined the hands and faces of the children, and somewhat lightened the heart of the anxious mother, and departed.

I found the patient on the following day precisely in the same situation and the same attitude, crouched up in a corner, and ready to spring upon her victim. I was very much interested in the case, on account of the parentage of the children; and, besides, I wanted to study the countenance of this demon, for she looked like one, and I was foolishly, inexcusably, imprudent. I went on my hands and knees, and I brought my face nearly on a level with her's, and I gazed on those glaring eyes, and that horrible countenance, till I seemed to feel the deathly influence of a spell stealing over me: I was not afraid—but every mental and bodily power was in a manner suspended. My countenance, perhaps, alarmed her, for she sprung on me, she fastened herself on my face, and she bit through both my lips. She then darted down stairs, and, I believe, was never seen again. I always have nitrate of silver in my pocket, even now: I washed myself—I applied the caustic with some severity to the wound, and my medical adviser and valued friend punished me still more after I got home. My object was attained, although at somewhat too much cost; for the expression of that brute's countenance will never be forgotten.

The later symptoms of rabies in this animal no human being, perhaps, has had the opportunity of observing. We witness only the sullenness and the ferocity.

*Rabies in the Rabbit.*—I very much regret that I never instituted a course of experiments on the production and treatment of rabies in this animal. It would have been attended with little expense or danger, and some important discoveries might have been made. Even at this late period of life, I should not, perhaps, be reluctant to associate myself with one or more gentlemen in such a pursuit. Mr. Earle, in a case in which he was much interested, inoculated two rabbits with the saliva of a dog that had died rabid. They were inoculated at the root of the ears. One of the rabbits speedily became inflamed about the ears, and the ears were paralyzed in both rabbits. The head swelled very much, and extensive inflammation took place around the part where the virus was inserted. One of them died without exhibiting any of the usual symptoms of the disease; the other, after a long convalescence, survived, and eventually recovered the use of his ears. Mr. Earle very properly doubted

whether this was a case of rabies ; and I would add, that, for reasons which will be stated in another lecture, I have never been able to produce rabies from the saliva of a *dead* dog.

Dr. Capello describes, but not so fully as could be wished, a case of actual rabies in one of these animals. A rabbit and a dog lived together in a certain family. They were strange associates, but such friendships are not unfrequent among animals. The dog became rabid and died. A man bitten by that dog became hydrophobous, and died. No one dreamed of the rabbit being in danger, and he ran about the house as usual ; but, one day, he found his way to the chamber of the mistress of the house with a great deal of viscid saliva running from his mouth, and he furiously attacked her, and left the marks of his violence on her leg. He then ran into a neighbouring stable, and bit the hind legs of a horse several times. Finally, he retreated to some corner of the stable, and was there afterwards found dead. Neither the lady nor the horse eventually suffered.

*Rabies in a Guinea-Pig.*—A few weeks ago a dog suspected, and with too much cause, to be rabid, was taken to my partner, Mr. Ainslie. He was examined before several of the medical students from the Middlesex Hospital, one of whom, in order, to make more sure of the thing, inoculated a guinea-pig with the saliva taken from him while he was yet alive. The guinea-pig had always been very playful, and fond of being noticed ; but on the eleventh day after the inoculation, he began to be dull and sullen, retiring into his house, and hiding himself as well as he could in the corner. On the following day he began to be ferocious in his way—he bit at every thing that was presented to him—gnawed his cage, and made the most determined efforts to escape. Once or twice his own violence induced convulsions of the whole frame ; and they might be produced at pleasure by dashing a little water over him. He died in the night of the third day.

*Rabies in the Fowl.*—Dr. Ashburner and Mr. King inoculated a hen with the saliva from a rabid cow. He made two incisions through the integument under the wings, and then well rubbed into these cuts the foam immediately taken from the cow's mouth : she was after this let loose among other fowls in the poultry yard. The incisions soon healed, and their places could with difficulty be discovered. Ten weeks passed over, when she was observed to refuse her food, and to run at the other fowls. She had a wild strange appearance, and her eyes were blood-shot. Early on the following morning her legs became contracted, so that she very soon lost the power of standing upright. She remained sitting a long time, with the legs rigid, refusing

food and water, and appearing very irritable when touched. She died in the evening, immediately after drinking a large quantity of water which had been offered to her.

*Rabies in the Wolf.*—Rabies is ushered in by the same symptoms, and pursues the same course in the wolf as in the dog, with this difference only, and one that would be readily suspected, that his ferocity and the mischief which he accomplishes are much greater. The dog hunts out his own species, and his fury is principally directed against them, although, if he meets with a flock of sheep, or a herd of cattle, he readily attacks them, and bites the greater part of them. He, however, frequently turns out of his way to avoid the human being, and seldom attacks him without provocation. The wolf, on the contrary, although he commits fearful ravages among the sheep and cattle, searches out the human being as his favourite prey. He conceals himself near the entrance of the village, and steals upon and wounds every passenger. There are several accounts of more than twenty peasants having been bitten by one wolf, and there is a fearful history of sixteen persons perishing from the bite of one of these animals. This is in perfect agreement with the history which I gave of the connexion between the previous habits and temper of the rabid dog and the mischief which he effects under the influence of this malady. The wolf, as he wanders in the forest, regards the human being as his persecutor and foe, and in the paroxysm of rabid fury, he is most eager to avenge himself on his natural enemy. Strange stories are told of the arts to which he has recourse in order to accomplish his purpose. In the great majority of cases he steals unawares upon his victim, and the mischief is effected before the wood-cutter or the villager is conscious of his danger.

*Rabies in the Badger.*—Hufeland, in his valuable Journal of Practical Medicine, relates a case of a rabid female badger attacking two boys. She bit them both, but she fastened on the thigh of one of them, and was destroyed in the act of sucking his blood. This poor fellow died hydrophobous, but the other escaped. This fact certainly gives us no idea of the general character of the disease in this animal, but it speaks volumes as to his ferocity.

In the next lecture, I shall describe the post-mortem appearances of rabies.

## ON RABIES IN THE HORSE.

*By Mr. E. A. FRIEND, Walsall.*

YOUR lectures on Rabies, which have just appeared, bring to my mind a case that occurred in my practice some years ago, that perhaps never was exceeded for intensity. My patient was a powerful waggon-horse belonging to Mr. Robinson, of Allington, near Grantham, Lincolnshire. I was sent for about nine o'clock, A.M., and was told that the horse was fetched from grass with the others in the morning, and that for some time nothing particular was discovered the matter with him, but that now he was furiously mad. On arriving at the place, and making particular inquiries, I found that he had fed that morning very well, and was put to work between two others. The first untoward symptom they discovered was, that, when taken from the cart whilst it was unloading, he began to fly at the other horse, and to bite at him savagely. When again put to and proceeding along the road, he was observed to be constantly springing at the fore-horse, and endeavouring to worry him. In a very short time he seized the crupper of the fore-horse, and bit it completely in two. This must have required most extraordinary power to accomplish; for though I call it a crupper, yet they do not use them there as such—they are turned back instead of going under the tail. This was four inches broad, and very thick and tough withal, and it would have required a powerful stroke with a heavy axe to have divided it. In fact, if asked my opinion on the subject, I should have said that it was perfectly impossible for a horse to sever it with his teeth at one bite.

When I first saw him, they had taken off part of the harness, leaving the chain halter, the winker bridle, and the collar on: fortunately they had not dared to remove these. He was fastened by the chain halter to a strong ring in the manger-post, and, greatly to my surprize, he was perfectly obedient to the voice of the waggoner, when told to go to the near or off side, and this he instantly did to the full extent of his chain. Presuming too much upon this obedience, I requested the waggoner to lead him out of the stable in which he was tied into the yard. He did bring him round for me, though very much against his own opinion as to the wisdom of the measure; and as soon as the horse discovered myself and those who were with me, his fury was dreadful, and I have no doubt but that some of us owe our safety on that occasion to the winker bridle, and the good government under which he had previously been. As soon as

we saw the imminent danger we were in, we all endeavoured to get behind, so as to be shaded from his sight by the bridle ; and, strange to say, as soon as this was done, the man had him in complete command : by keeping near his shoulder himself out of his sight, he was enabled to do this. The horse obeyed the order to go to one side or forward with a sort of spasmodic quickness that was truly astonishing. This obedience seemed quite involuntary, I should say purely the effect of long previous habit, and put in force every time decidedly against the will ; for the instant the head was carried to the off-side to the order of the waggoner, that moment was it brought back again, and turned to seek us ; and it required a very rapid repetition of the same word of command to save us till he was again tied up to the manger-post. The idea of giving any thing in the shape of medicine was entirely out of the question. I got a cord put round his neck, and bled him, and I suppose that I must have taken away 14 lbs. of blood before I loosed the cord. This, however, appeared to make no abatement whatever in his ferocity. He worried the rack and manger, biting pieces off every instant. I had a lock of hay thrown into the manger ; this he seized and worried for some time, without attempting to swallow a morsel. We watched an opportunity, and, when his head was turned to one side, we placed a bucket with water in it near to him. He turned again instantly ; and the moment he perceived it, he seized it with his teeth, and bit the iron ear in two by which the bail is fastened to the bucket, dashing the whole to the ground with the greatest violence.

The danger seemed now to increase every minute, and we no longer dared to have the door open at all, as (although he was still fastened) he instantly flew at every thing that he saw, and his head was turning perpetually to look for fresh objects on which to vent his fury. It is perhaps singular, but in this case there were no paroxysms that would give you the least idea of self-abandonment, no plunging about without an object, to the infliction of self-injury ; on the contrary, he appeared carefully to avoid this.

His countenance was distorted with a deep concentrated expression of vengeful malignity that was truly horrific ; and this was mingled too with one of extreme terror, displaying, with a determined design to inflict, an anxious fear of suffering injury himself ; and altogether there was something so very unnatural in his appearance, that though we were constantly withdrawing our eyes from him with a shuddering feeling of horror, yet there was a sort of fascination about it, that the next moment found them involuntarily seeking the same object.

There was a glaring brightness in the eye, and an intense power of sight that was truly astonishing. The place he was in was an old building boarded at the ends and behind him; and it was impossible for any one to peep through a crack that could at all come within the range of his vision, but he instantly discovered it, and as instantly made a dart in that direction.

I was obliged to leave him in consequence of other business, but fixed an hour in the evening to attend again; I did so, and found a man ready with a gun to shoot him. Nothing could induce Mr. Robinson to run the hazard of leaving him any longer; for he felt persuaded that, if he broke from his fastening, and got out of the place that he was in, he would kill every one that he got near to, and this was also the opinion of all who saw him.

He was fired at several times before he was killed; and of all the deaths of horses that I ever saw, his was the hardest and the most horrible. He yielded nothing, but fought with death and all around him to the last gasp of existence. He shrieked dreadfully as every fresh ball hit him: his dilated eye, as if attempting to burst from its socket, flashed with the wild vehemence of unsubdued ferocity; and from his distended nostrils he scattered around him the foam of his suffering, mingled with the red stream of his own life-blood. During the whole of this time he evinced a perfect and most alarming consciousness of the death awaiting him, yet he disputed every inch with the destroyer. He reeled and staggered, and would not fall, till nature could no longer support him on his feet; then, with a horrid yell, he went down foaming with impotent rage, and worrying every thing within his reach; and if ever a countenance breathed a curse so bitter that the force of language could not equal it, his was that expression in death.

I have no doubt that every one who witnessed the termination of that horse's existence will retain the remembrance of it now, as vividly as they did the day after it occurred.

I was of course very anxious to learn every particular respecting this case, and made the most strict inquiries. I was convinced it was one of rabies; and I learned that a dog, supposed to be mad, had passed through the village a month or five weeks before; but there was something rather unsatisfactory about the case after all, for I could not find any wound that was likely to have been made with the teeth of a dog, though it is most probable that he had really been bitten, and that the wound had healed: this perhaps may receive some confirmation from what I have still to relate. I anxiously interrogated the waggoner and others as to the first symptoms discovered in this patient,

and all that I could learn was, that for about a week previous he had appeared very *odd*; and this I found, on further questioning them, was intended to refer principally to his temper, and the appearance of his eye and countenance.

Two or three days afterwards I was sent for again to look at another horse of Mr. Robinson's that was shewing the same symptoms that had first been noticed in the horse that had been killed. I stayed some time, after my arrival there, to observe and examine him; and I must add my testimony to that of the rustic beforementioned, that there was something very *odd* about him. The appearance of his eye and countenance were *odd*, and his manners were *odd*. When feeding out of the manger with other horses, he would suddenly leave off to attack them, and feeding and deglutition would be suspended. The attack was of a spasmodic character; there was, first a lifting of the head from the manger—a momentary pause as if of thought—a wild unearthly gleam of the eye coming over it with the rapidity of lightning, an attack nearly as rapid, and this sometimes subsided without the attempt to bite; the eye regained nearly its natural calmness, and the horse returned again to his feeding. I do not think that I can possibly make you understand this as I felt it; but it was not the least like a bite which one horse makes at another in a common way, when feeding together. This we can well understand: it may be one of ill-nature, or an attempt to repel an invasion of his neighbour on that part of the food which he considers of right to be his own; but in this horse's case there seemed to be a perfect abstraction of the senses from the occupation before him. It was as if the remembrance of an injury flashed with irresistible force on the mind at the instant, and compelled the animal to a retaliation equally rapid; and yet, though all this was but the work of a moment, the bite was not always effected: either the paroxysm passed away before the completion of it, or compunction suspended it, or it was timely discovered that the attempt was made on an object for whom it was not intended.

The men about the horses all said that this was precisely the sort of affection, and the only difference they had discovered in the other horse till the morning when he became so furious.

In this second case there was a wound on one of the legs that really did appear to have been bitten; but if so (as I have no doubt it was), it was in a progressive state of healing, which it did do, after being well cauterized, without any trouble.

I abstracted a considerable quantity of blood from him, gave him strong mercurial physic, followed this up with mercurial alteratives, and he soon got quite well.

I have never had a doubt on my own mind as to both these cases being rabies ; but as there was no witness to the fact of the horses having been bitten, it remains still simply matter of opinion. At any rate, they were extraordinary cases, and I hope you will think them deserving a corner in *THE VETERINARIAN*.

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## ON HOCK LAMENESS.

*By Professor DICK, of Edinburgh.*

My Dear Sir,

WHAT between spending last week at our great agricultural meeting at Dumfries, and the present one with our races, and other matters, I have only to-day, while on the coach travelling to Falkirk, been able to look over your last number, in which I find two letters on "*Obscure Hock Lameness*," and a prefatory note by you regarding the wood-cut, which very accurately represents what Mr. Spooner describes, perhaps rather more boldly marked than I have usually found it. With your description, however, you will excuse me for observing that I do not altogether agree. You state there "is evident discolouration and depression—there is loss of substance." I allow "there is *apparent* ulceration," but I contend it is only *apparent* ; that there is no "*loss*" of substance nor yet "*depression*," and that there is only *apparent* "*discolouration* ;"—were I to admit these, I must admit all. Mr. Spooner wishes to clear himself from the supposition that what he states in his letter of July was a challenge to the profession for neglecting him and this, his supposed discovery. I can only say, had I not thought it such, he would very probably never have seen my letter ; but with this attempt to clear himself of egotism, he again falls into the same error, and accuses me for allowing the subject to lay over for six years. I would wish, however, to ask, what right he has to expect me or any one else to expose the errors of others as they appear in print, unless it suits our fancy, time, and convenience. Not having the volume by me with Mr. Spooner's first paper, it would appear that I was wrong in supposing myself a nominal Editor at that time ; this, however, will not alter the case of *Disease* or *Not*.

I had written thus far with the determination of sending you this for your November number, when I was interrupted ; and ten days having now elapsed, it must stand over for another month. But now for the question. Mr. Spooner states that his first case was one of "lameness in one of the hind legs, attended with a slight degree of heat and '*tegumental*' swelling about the hock.

The horse was bled from the thigh, and, after the heat was removed by cooling treatment, the hock was blistered, and the lameness removed." He again became lame, was treated, and got sound; again fell lame, and was treated, and he died some months after. "No disease could be *found any where but in the hock joint*; there was no spavin, and on separating ALL the bones of the hock, no disease could be discovered except in the upper articulation, where the tibia presented the appearance of being worn down, as it were, by *friction* about the centre of its middle protuberance—the cartilage being *absorbed*—the bone *abraded*—and the synovial membrane round it *red with inflammation*. Having lent to some friend, who has forgotten to return them, and whom I have forgotten, the vols. for 1830 and 1831 of THE VETERINARIAN, I cannot compare the description then given by Mr. Spooner with the preceding; but I think his description of that case was more like the description of the case in your July number, than the words quoted from your October number convey. I shall take his own words as now quoted, and first beg to remark, that I am inclined to think a seat of lameness pointed out by *heat* and *tegumental* swelling cannot be considered very "obscure;" that in all cases where these symptoms are present, and arising from an injury in a joint, the injury must be severe, and the seat of it pretty obvious. If, however, I recollect right, Mr. Spooner does not mention any thing about tegumental swelling in his first paper in 1830, but, on the contrary, stating that "*no enlargement was any where perceived*," he, at the same time, said there was "*slight exostosis in the cuneiform bones, but not interfering with any joint, or likely to have occasioned any lameness*." It is difficult for me to reconcile these statements of facts; perhaps Mr. Spooner can. But, in the mean time, I may observe, that it is somewhat strange, after Mr. Spooner has told us that, on separating ALL the bones of the hock, no disease could be discovered, yet in the plate you have given we have the astragalus and os calcis united. Did Mr. Spooner then not examine the articulation formed by these bones? Is this the kind of examination upon which he asserts that no disease could be found any where else than on the articulating surfaces of the astragalus and tibia? Mr. Spooner seems to have forgotten that the cuneiform bones, as quoted above (and, having now obtained a loan of the vol. for 1830, I find I have correctly quoted), presented "*slight exostosis*." What could have been the cause of these? Were these deposits not as indicative of inflammation, *having* previously existed in the cuneiform bones, as if ulceration had been found? And if they prove this, what *proof* has Mr. Spooner given that that inflammation did not exist at the time of the animal's death? Why, none;

but, on the contrary, shews that he is not aware of, or that he has overlooked the fact, that lameness may arise from inflammation in bones, although one of the effects of that inflammation (exostosis) may not have so extended as to interfere "with any joint." I have thus gone back to Mr. Spooner's first cases, because, in his reply to my remarks, he has referred to them, and I have only noticed the fourth of these cases, being the one, I think, he particularly alludes to in his last letter as his first case; the other three being what is generally allowed to be *common varieties of spavin*, and not entitled to be ranked as "obscure hock lameness." In the account of *that* case no mention is made of the middle protuberance of the tibia having the appearance of being *worn down*, nor are these words used in his July communication, neither does the plate you have given convey any such idea; and I am therefore persuaded such appearances were not presented in the preparation. In the last paragraph of my letter I have stated that, if these varieties arose from friction, they must have extended over the remaining part of the articular surface, by the pressure and friction being increased, and falling on the remaining sound surface. [This passage is a little obscured by a mistake of the printer, who has, at the end of the fifth line and beginning of the sixth in that paragraph, printed "the exertion" instead of "their existence," (that is, of the cavities) as I had written.]

Mr. Spooner endeavours to answer my arguments in this by two *suppositions*: first, he *supposes* that my arguments are right, namely, that the parts beyond the cavities would receive the pressure and friction, and therefore, even if they existed in all hocks, he would be right: but has he shewn that these cavities are enlarged? No. Has he shewn that the *cavity in the centre* of the *middle protuberance* of the tibia has been produced by its being "*worn down*?" Most certainly not. But he secondly *supposes* that where there is no cavity a bruise takes place, and further supposes a great variety of circumstances, and thus builds a fine-spun theory upon his suppositions. But where is the **PROOF**? I deny the soundness of his suppositions. Does he suppose that the middle protuberance of the tibia is a wedge to split the astragalus in pieces? or does he suppose the pressure between these bones is circumscribed to a fine point? Does he suppose the protuberance of the astragalus is not exposed to pressure and friction as much as the other? or to what extent does he suppose these parts are affected at the moment the centre is bruised? I do not admit that any such bungling mechanism is to be found in the joints of any animal; it were a libel on the Author of Nature even to make such a supposition; and on common sense, to assert that a mere mechanic, if shewn the hock joint, would

point out the centre protuberance of the tibia and concavity of the astragalus as the parts most disposed to "wear and tear." Any mechanic would at once see, and say, when shewn the hock joint, that there is such an admirable adaptation of surfaces here, that unless some accidental circumstances—or some disease—occur to change the *direction* of motion, these surfaces, if kept properly lubricated, may continue to move on each other for ever, without one point being more affected or worn than another.

It may be a little teasing to Mr. Spooner to be told at the eleventh hour, and after the lapse of seven years, that he had discovered a mare's nest; but I think if he had acted wisely, and instead of wrapping himself up in self-assurance, had set about a fresh investigation, and endeavoured to prove that he was right, or at once have acknowledged he was wrong, it would have looked better than the course he has pursued. But, no; he disdained to test his opinion by extensive investigation. Satisfied in his own mind that he had discovered the seat of "obscure hock lamenesses," he looks at those cases only where he supposes he will find what he wants, and, like many other discoverers, he fancies, and finds what his fancy pronounces to be the disease. "Have I," says he, "gone to the knackers or the kennel and searched for hocks supposed to be diseased, and then concluded, as a matter of course, that the horses to which they belonged must have been lame? No: I have related no case; I *possess no specimen* of the disease whose history I have been unacquainted with." Quite correct. But did it never occur to Mr. Spooner that it might be as well to examine a few sound hocks, lest that which he supposes to be disease should turn out, as I have asserted, to be the healthy structure? For example, if he had not disdained the knacker's yard or the kennel, he might have found, as two of my pupils did the other day, that in examining the hocks of seven horses, which were all they could get that day, they found, in six cases out of seven, more or less of what Mr. Spooner describes. Such a proportion might have led him to consider it as very odd that so many horses should have "obscure hock lameness:" some of them, perhaps, he would have learned had never been lame, while in others he would have found disease in other parts of the limb sufficient to account for lameness: and thus by a cautious, patient, and extensive examination, he would have acquired correct views of the seat of disease. Had he thus proceeded, he would, I have no doubt, have found many cases where friction had really taken place, and that, too, marked so obviously, that no dispute could have arisen on the subject. And, moreover, he would have found that that friction extends further and deeper, although not precisely situated in the place,

and, as he has described it, and that too without ulceration; and he might also then have concluded, that what I have stated on this point is not quite so contradictory as he seems to think, but that "there is nothing more common than to observe the effects of friction on the articulating surfaces of these bones," and "quite different from what Mr. Spooner points out." I refer to my last letter, where I say it is always found in *bog spavin*, and that a knowledge of it is by no means new, at least here; and also, that you may have an opportunity of shewing the real effects of friction by another plate, I refer you to a specimen which my friend Mr. Liston, the distinguished Surgeon of the North London Hospital, got from me a good many years ago, which, I have no doubt, he still has in his museum. By it will be seen that much greater friction may take place, and that without ulceration, than Mr. Spooner seems to believe. It will also shew, that although neither veterinary writers nor lecturers have pointed it out to him, and although they may have known nothing about it in his end of the island, yet that it has both been long known and pointed out here. That some lecturers have pointed it out, and even enlarged upon it at considerable length, my pupils can also testify. If Mr. Spooner possessed the acuteness of understanding I was willing to allow, I think he would have understood what I meant by the symptoms which would indicate the existence of the occurrence of friction prior to death. I stated that it would be found more or less in *all* cases of *bog spavin*: surely then Mr. Spooner does not require me to tell him what are the symptoms; he cannot but know them, whether he knows the pathology or not. Are the symptoms of *bog spavin* "obscure?" No; they are obvious; there is *enlargement*, which I think is the *reverse* of "*no enlargement*:" and, as Mr. Spooner says with regard to *bog spavin*, every one knows, at least every veterinary surgeon, if he knows any thing at all, that not one in twenty occasions lameness, which I think is pretty nearly the *reverse* of "obscure hock lameness." Even according to Mr. Spooner's own shewing, without going farther, perhaps he will now understand what I meant by the symptoms of the existence of friction in the hock joint (or, if he chooses, any joint) being quite the reverse from those of his cases of "obscure hock lameness." But as "only one out of twenty" of my cases of friction are attended with lameness, and as all Mr. Spooner's cases of "obscure hock lameness" arise from friction, there must be, perhaps, a greater degree of susceptibility in the part he says is affected. It is, perhaps, a little ticklish. But "suppose" Mr. Spooner were to turn round and ask me, Well, where do you say the seat of "obscure hock lameness" is? I would repeat what I said in my last, that before I concluded that an obscure

lameness was in the hock, I would first ask myself the simple question, "where is the lameness?" and although I might be right in most cases of obscure lameness in saying it must be in the hock, when I had the opportunities which Mr. Spooner had, I would very carefully have examined all the limb; and if I saw any thing that struck me as new, before I published it to the world, I would have examined every bone, ligament, joint, muscle, tendon, vessel, and nerve, and have compared the peculiar part with the analogous part in a sound limb, before I ventured to publish the discovery; and if it were challenged, I would have gone over the limb still more carefully before I so stoutly reasserted my opinion.

Now, has Mr. Spooner done this? I ask the question, Has he gone over the whole limb in the careful manner I have proposed to myself in such circumstances? or is he so confident in his knowledge of the healthy structure as to know at once the slightest shade of change from the normal to the abnormal condition? I think that even a more practised eye than his might refresh itself with a look at nature. But allow me to ask, in what manner was the dissection of the limb conducted? Was every individual bone, joint, ligament, muscle, tendon, bloodvessel, and nerve carefully examined? Had the thickening which must have arisen from the bruises, the effects of kicking, been entirely removed, without leaving any alteration or injury of the subjacent parts?—was the animal sound or lame (which is not distinctly stated) at the time of death?—And if the animal was going sound, what evidence had Mr. Spooner that the cause of the "obscure hock lameness" had not disappeared entirely along with the lameness, without leaving any trace of it behind?

Mr. Spooner has, in his first paper, alluded to the "round bone persecutors," and must therefore, of course, be well acquainted with the hip joint. In that articulation he will have observed, that around both the attachments of the sound ligament there are cavities having something of an ulcerated appearance. Is he aware that in some cases the ligament is destroyed, and that these cavities are filled up; and that the articular surface, both of the head of the femur and acetabulum, becomes a continuous surface covered with cartilage, as if neither cavities nor ligament had ever existed, or at least a very faint trace of them to be found; and that in some of those cases the lameness goes off after the inflammation arising from the injury has completely subsided? Here, then, is a case where a somewhat analogous condition is to be found, and in which, when inflammation has occurred, instead of ulceration taking place, there is a filling up of the cavities—which cavities, I believe, Mr. Spooner will allow to be the healthy structure.

In looking back to Mr. Spooner's letter in July, I find he alludes to the discussion on spavin which had taken place in the Veterinary Association, and especially to the answer given to a question of Mr. Holmes by Mr. Cheetham; and he is surprised no allusion was made to his views of the seat of the disease. Perhaps I can tell him why Mr. Cheetham, at least, would not allude to it as the seat of disease. Some time after he became a pupil of mine, with an ardour for investigation for which he always distinguished himself, he had been examining some hocks, and thought he had made a discovery, and brought a specimen to me of the astragalus and tibia, presenting the appearance in question, and quite as much as shewn in your plate. I explained it to him, and he was satisfied it was not in a diseased condition. I have no doubt he will recollect the circumstance; and this, I think, will explain why he did not consider it as disease; and, for aught I know, similar circumstances may have led others to overlook it:—so much for the neglect of the discovery.

Mr. Spooner is a sturdy opponent: not content with having so valorously combatted all I had said against his discovery, he pulls up fresh courage, and attacks me in his turn: he says, "Mr. Dick seems to dispute the theory of pathologists; that, when a bone exposed to great friction presents a polished appearance, such appearance is occasioned by the deposition of a peculiar secretion to resist this friction." Now, I shall not attempt to reply to his arguments, because, as he has never seen any thing of the kind in the hock, otherwise he would have stated it, I think it better to allow him time to reconsider it, taking the liberty, however, of saying, that in a conversation I lately had the honour of having with a gentleman whose authority on such subjects Mr. Spooner will think as good as mine, namely, Sir Astley Cooper, Bart., that gentleman stated, as his opinion, that it was merely the mechanical effect of friction, and not a secretion. I shall, however, be ready to discuss this at length, if Mr. Spooner desires it, in another paper; but I think this letter, even if one was necessary, has already exceeded due bounds; and I am afraid that, although it were further extended, Mr. Spooner would still be inclined to state, that his "opinion remains entirely unaltered by Mr. Dick's animadversions," and any thing further I might say would therefore be superfluous.

Before concluding, however, I must say a few words to Mr. Pritchard: he says he can most positively assure me, that neither he nor Mr. Spooner are in error in regarding those sulci or pits as lesions of the cartilage, but that I err; that, "however frequent these are seen, they are *true morbid lesions*." I simply ask, where is their proof? I stated in my last, that these sulci

are to be found in one form or another IN ALL HOCKS, not always in the same spot, but sometimes extending from the margin of the articulation, sometimes a mere notch, sometimes a mere acute margin answering all the purpose; while in an astragalus which I have forwarded to you, it will be seen both as a notch and a slight groove; but, in a large majority of cases, being situated in some part of the groove of the astragalus. They have asserted, I have denied, and the onus lies with them: when they have proved they are right, I shall most willingly acknowledge I have been wrong; but I shall take no man's *opinion* on a subject that is capable of proof, until he has supported that opinion by proof.

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## THE COMPARATIVE VALUE OF THE CAUTERY AND THE SETON.

*By Mr. W. HENDERSON, Edinburgh.*

HAVING attended with much interest to the discussions in your valuable journal on the comparative merits of the actual cautery and the seton, and being anxious to promote as far as in me lies the advancement of the science of veterinary surgery, I send you a few cases illustrative of the subject, together with some remarks which my own experience has suggested to me.

During the early period of my professional studies, I, in common with others, had to contend with those difficulties which formerly beset the student, in consequence of the want of a veterinary school, and the obstinate adherence to certain doctrines which derived all their claims to attention, not from being founded on extensive scientific and practical knowledge, but from their being espoused by individuals who had obtained a local reputation, in consequence of the length of time during which they had practised in a district. Any attempt at improvement was at once denounced as a rash and chimerical innovation, and reason was silenced by authority. Anxious, however, to obtain the necessary information to enable me to judge for myself, I entered for two years as pupil to the late Dr. Barclay, one of the most accomplished comparative anatomists of the day: and, having thus acquired some knowledge of structure and function, I proceeded to the London Veterinary College. In this establishment, while listening to the truly scientific lectures of the professor and sub-professor, and attending to their enlightened practice, I shook myself clear of those prejudices which in

the early part of my career I had imbibed, one of which was the superiority of the cautery over the seton. I had been brought up with the notion that, in all cases, the cautery was superior to the seton : but the reasonings of Mr. Sewell, supported as they were by the most successful practice, shook my faith in the old doctrine, and forced me to give a fair trial to the new one. Of this determination I have had no reason to repent, and I can now point to a long train of successful results from the use of the seton, especially in spavins.

With a seton, you get below the skin, close to the ligamentous connexion of the bones of the hock, and as near to the seat of disease as you can go with common prudence or safety to the joint. With it, too, you can for a month or six weeks, or longer if necessary, keep up constant irritation, which in general produces a great deal of inflammation. In three or four days, supuration occurs, after which the absorbents take the lead of the arteries ; the supply of blood is partly cut off from the hock ; and independently of the spavin becoming diminished in magnitude from the irritation produced, together with the secretion of pus, the chronic inflammation is subdued ; and in four or five weeks the patient is going well, and with scarcely any blemish. Some have recommended leather setons, others ribbon or the common unbleached tape ; but I find that the tape which answers best, is the strong, broad, rough, twilled tape, used by the bootmakers for making boot-loops. When the needle has fairly entered, it ought to be passed zigzag over the whole inner region of the hock, cutting up the whole cellular membrane right and left, connected with it, by which means more irritation is produced than if it were passed straightforward, and subsequently you have a more abundant discharge of matter. Before tying the second seton knot, the assistant must seize the one ; and while the operator holds fast the other, it is to be drawn twenty or thirty times as rapidly as possible up and down. The setons require to be dressed twice or thrice a-day, and the hocks to be well fomented, for if the setons are not kept clean, they will very soon slough ; and even should there be the least carelessness on the part of the dresser, the hair will fall off in the course of the seton.

After the setons are withdrawn, and the sores healed up, it is my practice to rub into the seat of the spavin some camphorated mercurial ointment, which I find an excellent auxiliary. Last year I had about seventy-nine horses under treatment for spavins and splents below the knee, out of which number seventy became perfectly upright and useful, from setons. Some of them worked two weeks in the month, and got well. I have had

horses sent me from far and near to get setoned for hock-joint lameness, after having been once or twice fired, and I have succeeded in getting them to go sound. I shall relate one or two cases.

1st.—The first was that belonging to a medical gentleman here, which he purchased on mere speculation from a dealer for £12 or £13 sterling. He was a dark grey, about 15 hands 3 high, eight years old, and dead lame on the off-hand leg, although he had been fired on both hocks in the rig and furrow system. He was in sad condition, being quite “a bag of bones” and fearfully tucked up. The doctor was informed that he was a first-rate fencer, and very fast, and, as he was leaving Edinburgh for some time, he left him under my care, to do the best for him. I setoned him on both hocks, and in one month he was going perfectly level, and had improved very much in his general health. He was then turned out to a straw-yard, in three months was taken up, and sold to an officer for £40 or £45. He hacked and hunted him, and he kept quite right.

2.—One of my employers purchased a splendid grey mare for £20 sterling. She dragged the toe of the near hind foot, halted at a trot, and had been lame from a spavin for several months. The proprietor asking my opinion regarding her lameness, I told him I thought that, by inserting setons in her hocks, she would get all right, and he requested that the operation should be performed without further delay. In one month she was going quite correctly, no drag, no halt; and three months afterwards, he refused fifty guineas for her. Eighteen months have now elapsed, the enlargement is perfectly gone, and she has never been up or down since.

3.—A dealer, who is in the habit of letting out hacks, sent a little grey horse to my establishment, dead lame in both hocks from spavins, in which condition he had been for some time. The poor thing was as lean as a scarecrow. He was a steady gig horse, and fast in harness, and at all times in great demand. The pain, however, which he suffered from the disease in his hocks, together with the work he had done, quite knocked him up. I ordered him into a loose box; put him on a cooling diet; his hocks were fomented regularly for ten days, and he got a dose of physic. He was then setoned in both hocks. In six weeks he was again put to his work; he came all right in his action, and has continued so for two years at hard work. Time and hard labour begin to tell on his fore legs, and he will require to be fired.

One great advantage the seton needle has over the firing-iron is, that you can effect cures, or relieve horses when lame, without

producing any eyesore, which in general detracts greatly from the value when the owner wishes to dispose of them.

I have found setons of great utility in thorough-pins and wind-galls, and prefer them to the actual cautery. In chronic inflammation of the larynx, they are of much service; and I have seen their application supersede repeated blistering. In inflammation of the eye they are often had recourse to, and they prove very efficacious in inflammation of the throat in dogs, and in foot lameness.

In cases of quittor there is no kind of treatment so successful as that of the seton, which, in my opinion, is far superior to the removal of the lateral cartilage by the sage-leaf knife, sloughing the sinus with corrosive sublimate, or laying open the fistula by cutting the coronary ligament and cartilage, or cramming the sore with sulphate of zinc and tow. In quittor, I explore the extent and exact route of the sinus with the probe, after which I can calculate with the eye where to cause the seton-needle to make its exit, and at that particular part I remove the wall or crust, until such time as I arrive at the sensitive laminae. I then introduce the seton-needle at the coronet, and with two thrusts pass it through below the coronary ligament and lateral cartilage, and bring it out about the middle of the wall. In such a case I charge my needle with four plies of the common tape, so that as the fistulous discharge ceases, and the cavity heals up, I withdraw one portion after the other, until they are all extracted. I find that after the foot has been poulticed for eight or ten days, and the seton shifted, the sore very readily heals with a weak solution of zinc.

By treating quittor in this manner, the disease is soon conquered, and there is no permanent blemish, as generally results from the old method, such as false quarter, or a malformation of foot. Neither the bed of the secreting vessels, nor the vessels themselves, are injured; the cartilage is left in a sound and healthy state, and the crust of the foot regulated in its growth and formation the same as ever. I recollect only one case in which I did not succeed with the seton. This was a bay cart-horse, belonging to Mr. Stevenson, farmer, which had been lame for three months. About three weeks after he was sent home, after the seton had been tried, the owner called on me, and said that there was still a sore, and that it was running a little. I ordered the horse into town, probed the foot carefully, and ascertained the existence of caries. He was thrown, and after making a circular incision with the scalpel, and dissecting away some diseased portions of the fistula, I introduced the forceps, and extracted a piece of carious bone, which was the colour of, and as light as, a cinder. It had no connexion with the cartilage, as it came from the head

of the small pastern bone. The wound healed up, but the horse continued lame for some time.

I may now state a case or two, shewing the efficacy of seton in quittor. A chestnut gelding, the property of a nobleman, and called Young Carlton, which was purchased in England as a hunter for £250, happened to meet with an accident on the inner coronet of the near hind foot. Little attention was paid to it, as it put on no particular bad appearance, until within two days before I was called to see him. After examining, however, the sore carefully with the probe, I found it extended two or three inches into the foot. I informed the groom that it was a very bad case, and that it would require to be setoned, which was agreed to. But as the coronet by this time was considerably enlarged, and painful to the touch, and the horse was of a very irritable disposition, the foot was poulticed for four or five days, and a dose of medicine exhibited. On the sixth day after this he was setoned in the manner formerly described. The poultice was continued for some days, the seton shifted, and occasionally dressed with a weak solution of zinc. In five weeks after the insertion of the seton the wound was healed: he was perfectly sound, and was exercised with the other horses. For three years afterwards he was hunted, and was then sold for £150 sterling to a dealer, who disposed of him to some gentleman in the North.

The next case was that of a black gelding, which Mr. Scott, of the Waterloo Hotel, had purchased of a horse-dealer for a guinea. He was dead lame, had a bad quittor on the near hind foot, the coronet was very much enlarged, and the sore discharged a good deal of matter. He suffered very great pain, and was down in condition. He was only six years old, and well-shaped. Mr. Scott learned that he had been under the care of some farrier for two months, and had got no better. Being informed that setons generally cured such cases, he requested me to seton him. I examined the sinuses, and found them to run right and left, and the whole inner quarter of the foot was one mass of disease. Having removed the shoe, and prepared the foot, I had him cast, and inserted two setons, one commencing at the posterior part of the inner heel and terminating at the inner angle of the heel, at its junction with the crust, the other running a little obliquely, passing in and out through the lamina and crust, four inches from the upper part of the coronet. In six weeks he was quite sound; and the sores having healed up, he was put to run as a leader in the mail, and so well did he do his work, that the owner informed me he would not take £25 for him.

I could give many other instances, shewing the good to be derived from the application of setons; but those which I have already stated will, I trust, convince your readers of their UTILITY.

The value of the actual cautery is well known to every veterinary surgeon. In particular cases, as for example, curbs, ring-bones, ossification of the lateral cartilages, injury to the suspensory ligament and its divisions, old sprains, in some instances of grogginess, chronic swellings such as old callosities, weakness of the fore legs, debility of the ligamentous connexions of the large and small pastern bones, and caries of the bones, I have made some very good cures. I remember a case of a bay colt which had been lame for eighteen months from caries of two of the coffin-bones, from the clips having been hammered too close to the crust. There was a constant oozing of a serous fluid, of a dark colour, from the centre of the toe. A round shoe was applied to the foot, with a portable clip. The cautery was had recourse to, which in three weeks produced exfoliation of the diseased portion of the bone, and it healed kindly after the application of tincture of myrrh and tow. The horse got perfectly round.

One of the canal horses belonging to Mr. Strachan had a carious jaw, from bruising the tables of his jaw-bones in rearing up with a running halter. The actual cautery was applied, and the diseased bone, after having been poulticed for about three weeks, sloughed, and the wound healed up kindly.

I believe that I state the general opinion of veterinarians when I say, that firing acts as a permanent bandage, as the skin is considerably thickened by its application, the amount of cellular membrane diminished, adhesions form here and there, the skin becomes more firmly warped to the bones and tendons, and consequently gives more strength and confidence to the animal when his physical powers are called into play. There is no operation which is more creditable to the veterinary surgeon when properly done, that is, neatly and effectually. But when performed in a bungling manner, nothing tends more to lower his professional character in the eyes of his employer, as the blemish, every time he sees the horse, stares him in the face.

In firing, I generally throw the horse, particularly when it is required for the posterior extremities. By doing this, you can operate more neatly, and with greater confidence; and it is quite absurd to run the risk of getting your wrist sprained, your ancle dislocated, or your muscles softened, by being fool-hardy. For my own part, I never injured a horse by throwing him, but have more than once got myself injured by not having the horse on his back.

In conclusion, I beg to state, that whatever disputes may arise respecting the comparative merits of the seton and the cautery, I am convinced that, in the hands of the skilful and humane practitioner, they will never be abused. Both of them are valuable agents in the treatment of disease, and it is a waste of time to discuss generally their comparative merits, seeing that they depend on the individual case. Some practitioners run down the seton, others the cautery, and yet have never setoned or fired ten horses in their lives. The presumption and ignorance of such men should be shewn up, in order to guard the student from erroneous views, which may render his practice unfortunate, and destroy his prospects in life.

I should like my old fellow-student, Mr. H. Hallen, of the Inniskillen dragoons, to have such men under his command for three months. When that regiment was stationed here, I never saw a better mounted corps. The horses were all sound, and there was not the mark of an iron on one of them. I never saw a more efficient army veterinary surgeon; and, were he willing, I am sure he could contribute some valuable papers to your journal, as he has much useful information in his possession.

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## CASE OF LITHOTOMY IN THE HORSE.

*By Mr. W. ROBINSON, Tamworth.*

THE subject of this operation was a favourite black horse (Jack), the property of Henry C. Windle, Esq., Mayfield, Walsall, and formerly of a much-respected member of the veterinary profession, the late Mr. Armstrong, of Birmingham.

In the month of April, 1836, Mr. Windle requested my opinion of the black horse, he conceiving it to be a very singular case. He described the symptoms to be, frequent and painful attempts to void his urine. This had been noticed about four months. Of this I could not at that time be an eye-witness, but observed that he appeared in perfect health, and, although he had been driven nine miles, he was very lively; he was free from constitutional irritation, and excessively fat. I advised depletion, abstinence, and external irritants to be applied to the urethra and pelvis. However, before this plan was adopted, Mr. Windle sent him over to my stables. On the second day after his arrival, I saw him attempt to empty the bladder by the usual process, and it was indeed a very painful effort to expel a few ounces of urine only. He continued to make great exertions, without changing his position for further relief, but in vain. It was at this time

that I examined the bladder by the rectum, and found a large solid body firmly fixed towards its neck. On a second examination, in the evening of the same day, I found the bladder distended with urine, and could then move the substance backwards to the fundus, which change instantly brought on the usual painful efforts (but on this occasion much increased in intensity) for the expulsion of the offending matter. This was communicated to Mr. Windle, and that relief could only be looked for from lithotomy. He was sent for home; but after a few months had passed over, Mr. Windle consented to the operation, and he was again admitted into my stables on the 4th of November, 1836, much lighter in flesh than before. He was restricted from this time to a diet of bran and carrots, in order to prepare him for it.

Friday, the 2d of December, being fixed upon for the operation, the following medical friends were in attendance:—Mr. R. Cave Browne, surgeon; Mr. Allies, ditto; Mr. Webb, ditto; all of Tamworth: Mr. Adams, surgeon, Walsall; Mr. Friend, veterinary surgeon, Walsall; and my brother, Mr. John Robinson, veterinary surgeon, Lichfield, who all very kindly assisted in the operation.

The horse was cast in the same way as for castration, and, being placed on his back, the hinder legs were drawn up, and secured near the shoulders. The penis being drawn out of the sheath and well cleansed with warm water, a whalebone staff was passed up the urethra, and its end cut down upon, where it pointed in the perinæum; but from the struggles of the animal it was withdrawn, and the jointed sound introduced: the opening into the urethra was then enlarged, and the external incision carried obliquely down by the anus for about four inches: the fore finger of the left hand was then used as a director in opening the pelvic portion of the urethra and neck of the bladder. The forceps were now found to be too weak and inadequate for the extraction of the calculus, and a further division of the bladder was made, to admit the hand of Mr. Friend (considerably smaller than my own); but so firmly did the coats of the bladder adhere to the rough mulberry-like surface of the stone, that it was with very great difficulty the fingers could be insinuated between them; and then so tenacious was the grasp with which it was held by the contractile power of the bladder, that it required considerable force to remove it.

The interior of the wound was now sponged, and the few small pieces, broken off the stone, carefully removed from its surface: three stitches were then used in closing the upper portion of the divided integument. The loss of blood was only a few ounces, and it was not necessary to apply ligatures to any of

the divided vessels. The horse was now released, and led into the stable. In a few minutes he exhibited much uneasiness, with the usual symptoms of spasms of the bowels. Six drachms of gum opii were dissolved in three quarts of water, and injected into the rectum, which appeared instantly to allay every symptom of irritation.

The calculus was of the mulberry kind, very solid, of an oblong shape, and the size of a swan's egg, weighing 1lb. troy, and measuring nine inches by eight in circumference.

*Dec. 3d.*—Pulse 36. He appears easy, and has eaten a little mash and carrots. The urine escapes by the wound in the perineum. A warm fomentation was applied to this wound night and day constantly, from the time of the operation till the morning of the 10th.

*4th.*—The appetite good, and every appearance favourable.—Pulse 32.

*5th.*—Every thing favourable.—Pulse the same.

*6th.*—The same: the urine to-day passes by both the wound and the urethra.

*7th.*—Suppuration established in the wound, with an occasional discharge of pus from the interior—other appearances very favourable.

From this time to the 19th there was a progressive improvement. A good deal of sloughing took place from the internal surface of the very extensive wound that had necessarily been made in extracting a stone of such an immense size; but this was gradually healing: a weak solution of zinc was occasionally applied to the edges of the external opening, which was also closing very fast, and on this day (19th), the urine was passed entirely by the urethra.

*Jan. 16th, 1837.*—The wound is now quite healed, and so perfect has been the process externally, that a small mark, of little more than an inch in length, and fine as a hair, is all that exists to point out the spot where it was originally made.

He had been at walking exercise now about a week; but on the 18th he had a severe attack of influenza, which produced inflammatory swelling of the hock and sheath to a considerable extent; from this, however, he recovered sufficiently in about ten days to go again to walking exercise.

For some time previous to this there had been a perfect retention of the urine in the bladder, and the evacuations by the urethra were quite natural in quantity and frequency. Unfortunately, however, in the second week in February, by which time he had become much fresher in condition, and very playful, from the sudden and violent exertion which he then used in kicking

and jumping whilst being led by the side of another horse, he produced some disarrangement of parts in or near the neck of the bladder, from which he has never perfectly recovered. There began from that time, and has still continued to exist, a slight draining of urine occasionally by the urethra. There appears to be a partial power, however, to restrain this, as frequently there will be no discharge of this kind whilst he is being either ridden or driven a stage of several miles, but which will commence as soon as he stands still. I suspect that on this particular occasion a rupture of the scarcely closed wound in the neck of the bladder took place afresh, and that it has now either healed again, with some loss of power in the sphincter muscle, or that a scirrhus opening in or near it still remains, which the muscle has the power of closing on particular occasions, but that it does not exercise that invariable vigilance which is required to prevent a trifling escape at other times.

His natural evacuations of urine are considerable in quantity, and this trifling escape has never interfered with his general health or his usefulness, as he has since been in most beautiful condition, and has done his work with apparent ease and great cheerfulness.

Mr. Windle has kindly presented the calculus to the museum of the Veterinary College, London.

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## A CASE OF IMMODERATE THIRST (DIPSOSIS AVENS) IN THE HORSE.

*By Mr. EDWARD CHARLES, London.*

IN the beginning of June last, I was sent for to look at a horse that, for three or four days, had been suffering from unquenchable thirst, drinking seven or eight pails of water daily, without being satisfied, and voiding an equal quantity of urine. He was a fine bay carriage horse, and, some weeks before, had two doses of physic, the last of which had little or no effect. I found his pulse rather lower than usual, his mouth cool, appetite diminished, and rather tucked up in the flanks. His hind legs, which previously were a little dropsical, were as fine as possible, much more so than I had ever seen them; his coat looked healthy, he was in high spirits, but, although he had worked as usual since he drank so much, he had never perspired: he was also rather costive.

His attendant was doubtful whether he had done right in giving him so much water: I, however, recommended that he should have as much as he would drink. I gave him a fever ball, and ordered him green meat instead of hay.

The next morning I was up early, that I might see what quantity he would drink. Having called the coachman, we proceeded to the stable, when the horse immediately began pawing, and looking round with the greatest anxiety for his water. We gave him four pailfuls—about ten gallons—which he drank in an incredibly short time, and he seemed to relish the fourth as much as the first. I called again in a couple of hours, when he had two more pailfuls. We gave him no more at that time, as he was going out in the carriage. On his return, and in the course of the day, he had four or five pailfuls more, in all about twenty-five or twenty-six gallons, and then his thirst seemed slaked only for a short time. He was continually staling, but evinced not the least tenderness when pressed over the region of the kidneys.

This continued seven or eight days. He ate the green meat, but seemed to be losing all relish for corn; he got thinner, but still worked with his usual spirit. His work, however, was only short runs, rarely extending beyond ten or fifteen minutes: had it been otherwise, he must have failed, as he staled enormously every time he stopped.

I now commenced giving him a ball containing two drachms of ginger and three of gentian, daily. On the second day, he began to eat more and drink less; and by the time we had administered six balls, he had lost his morbid appetite for water, ate as usual, and has since been sold for £90.

To have seen him in the stable, without knowing any thing of the case, or the accompanying symptoms, the disease might have been mistaken for inflammation of the kidneys or bladder; for he was either staling, or endeavouring to stale, the whole time he was in the stable, more particularly just after he had drunk; and I am inclined to think, that if there was no predisposition to disease in the kidneys, they would not so readily have adapted themselves to the great demand made on them by the enormous influx into the system; not only carrying off easily all the water he drank, but also the aqueous portion of the blood which had formed a dropsical deposit in the hind legs. On the other hand, if it were the tonics that aided the cure, it implies a morbid state of the stomach, producing preternatural thirst. I have, however, stated the case as it occurred, and should like to have or hear of another of the same kind, the treatment of which would, perhaps, throw some light on the nature of the malady.

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## THE POISONOUS EFFECTS OF THE YEW TREE.

*By Mr. W. C. SPOONER, Southampton.*

FROM time to time there have been some cases recorded of the poisonous effects of the yew tree : such instances, however, have been few, and often solitary ; and, indeed, at the discussion at the Association, nearly a twelvemonth ago, on Mr. Morton's Essay on Poisons, there seems to have been a doubt in the minds of some of the members, as to whether it was actually poisonous, whilst others only considered it to be so when taken in large quantities. I remember some years since examining a donkey that had died somewhat mysteriously, and whose death had shortly succeeded that of a brood mare, turned into the same small pasture, in which grew a large yew tree, the branches of which were within reach of the animals, and had, no doubt, produced their death. It is desirable, I think, that all such cases should be made public ; and I cannot therefore do otherwise than record the following facts that have lately come under my notice, as they are sufficient to put beyond doubt (if any can exist), the poisonous nature of the yew. Being in attendance on some horses belonging to Mr. H. King, of Fullerton, in this county, during the last month, that gentleman informed me that he had lost, in the preceding week, no less than forty ewes and lambs, from eating the yew tree. Seven hundred ewes and lambs were turned into a small pasture, on one side of which a dead fence, not one hundred yards in length, had recently been made from the cuttings of this tree. These branches, however, were in a dry state, having been cut a month or six weeks previously, and the hedge had been made a fortnight before the sheep were admitted. The flock entered the field in the morning ; one ewe died on the same evening, and by the middle of the next day the number before-mentioned—the greater portion of which, however, were lambs. They were seized with a stupor and giddiness, and died in about half an hour. On opening them, a quantity of the dead yew was found in their stomachs, and the appearance of the hedge, which was shewn me, sufficiently testified the fact of the yew having been consumed ; for the side of the hedge which the sheep could not approach presented the same appearance as when made, whilst on the other side the dead branches were quite stripped of their leaves. Many experiments were tried, with a view of saving the sheep : they were all bled, and to some, castor oil was given, and to others, croton oil ; others were attacked, and recovered ; and, although to some of these the croton was given, yet as many recovered that were simply

bled, and had had no medicine. It is more reasonable to attribute their recovery to the circumstance of their having taken less yew than to their having had croton; particularly as they were seized when the yew had much diminished. The croton, too, produced no purgative effect, although to one ewe no less than two tea-spoonfuls were given, and she was of the number that recovered. It is deserving of especial notice, that in these cases the poisonous effects were produced by the yew in a dead state; when, perhaps, most people would have thought it altogether unlikely to occasion mischief. Such facts as these I have recorded should be as widely circulated as possible; for although we are told that experience bought is better than experience taught, yet there are few agriculturists, I take it, but what would prefer reading such instances in a journal to feeling their effects in their own pockets. The owner was unaware of its poisonous nature, and he says it is the last time he intends making a fence from the cuttings of the yew tree.

## *THE VETERINARIAN, DECEMBER 1, 1837.*

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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[We again yield the place of honour to these interesting and valuable records of the progress of veterinary science in foreign schools. How happy should we be to place before the public the labours of other institutions nearer home!]

*Extract from the Compte Rendu of the Proceedings of the Veterinary School of Alfort, during the scholastic year 1836-1837.*

HOSPITALS.—*Professor M. RENAULT.*

DURING the scholastic year that has just expired 618 animals, afflicted with various diseases, have been received into the hospitals of the school. Of these 426 were horses, and the rest cows, dogs, goats and pigs.

Of the 426 horses, 354 were dismissed, either cured, or in a state of convalescence. 34 died, and 38 were destroyed, either on account of the known incurability of the disease, or because the owners were unwilling to incur an expense which might, in the most favourable termination of the case, be very considerable

compared with the value of the animal. In this, as in the preceding years, the greater part of those that were destroyed were either farcied or glandered.

Our list does not contain those, 61 in number, who are now in the hospital, nor the cows, sheep, and pigs belonging to the establishment, and which have been subjected to various operations and courses of treatment.

In addition to the animals that have been actually received into the hospitals, 2265 have been brought to us—some for medical advice—others for examination as to soundness, and others to be lodged with us during certain legal processes. Each of these has been carefully examined, either by the professor or his assistant, and verbal or written advice given, or certain necessary operations performed. On the whole, therefore, 2752 patients have been submitted to our inspection; while the students of the fourth year have been sent to a great many places in the neighbourhood, to attend on sick animals of every description.

All the observations which he has been enabled to make, during the present year, on GLANDERS and FARCY, whether in studying the symptoms of these diseases in the living animal, or its lesions in the post-mortem examination, or by diligent inquiry into the causes of these maladies, have confirmed M. Renault in the opinion, which he has often publicly stated, and which is assented to by the greater number of veterinarians, that *they are perfectly identical*; and that the difference in their curability depends entirely on the seat of each. Many farcied horses have been cured—some by the simple extirpation of the cords or buttons which characterize that malady; others by extirpation combined with the application of the cautery; and others, again, by the exclusive employment of this latter mode of treatment, and which is always preferable when farcy shews itself under the form of buttons or circumscribed tumours. But if, after the disappearance of the symptoms of farcy, the animals which seem to be cured are not placed for a considerable length of time in a situation, and submitted to a treatment favourable to the establishment and preservation of health, it will often happen that either the same symptoms of farcy, or those of glanders, will reappear in the course of a few weeks or months, or, perhaps, a year.

Cases, not a few in number, have also induced M. Renault to think, that when farcy, either at once or by degrees, has appeared on different parts of the body, under the form of cords or tumours, with enlargement of the neighbouring glands, it is rare that the animal so affected, and, perhaps, in appearance, cured, does not finish, sooner or later, by dying glandered or

farcied, whatever attention may have been paid to his food and treatment.

M. Renault has seen, in the course of the last year, a new species of farcy which has not been described by any author. It is characterized by the development, almost instantaneously, and over a greater or less portion of the skin, of buttons, crowded one upon another; but so small at first that, when they are found on a part of the skin covered with hair, their existence would not be suspected from the slight irregularity or elevation of the coat. These buttons rapidly increase in size; and on the day of their formation, or the day afterwards, a small scab covers their summit. Under this scab, which soon falls off, an ulceration is established, not deep but spreading, which causes the epidermis and the hair to be detached, and unites all the little wounds into one large ulcer, the appearance of which is hideous, and the smell fetid and repulsive.

This ulcer, once formed, has a constant tendency to enlarge itself, yet still without much deepening; the skin, the borders of which are at first hard, slowly ulcerating in its turn. That which contributes to prolong or to aggravate the evil, and to keep the wound almost continually bleeding, is the apparently tormenting itching of the part, and which excites the animal to be continually biting it, or rubbing it against every thing within his reach. The development of this disease is neither preceded nor accompanied by any febrile action, and the animal preserves his appetite, his condition, and his usual power. If the case finishes, as it too often does, by his being sacrificed, it is because of the repulsive appearance of the ulcers, whence exudes a sanious fluid, the stench of which infects the stable in which the horse is placed.

The scrotum, the inside of the thighs, the anterior part of the arm, the croup, the shoulder, and the cheeks, are the parts on which this disease oftenest appears. Three horses, on which were ulcers of this kind, of long continuance, large and numerous, having been destroyed, we found, after careful examination of them, no lesion but the diseased surfaces of the skin. The glands, the subcutaneous lymphatics nearest to the wounds, and even the lungs, were perfectly sound. The extirpation, or the general cauterization of the ulcerated surfaces—the application of caustic or absorbent powders—the greatest attention to cleanliness—diuretics and purgatives, were in their turn fruitlessly employed on the first horses that were submitted to treatment.

With an exceedingly fine-pointed iron M. R. attempted to fire, separately, each of the little ulcers of which the large one was made up; and, in some wounds, presenting a surface of more

than six inches square, he applied his iron two hundred times. This mode of cauterization, followed by the application of absorbent powders after the fall of the eschars, was attended by the happiest results. Nineteen horses underwent this treatment, and it succeeded in them all. One condition, however, indispensable to this result, was, the rendering it impossible for the horse to bite or rub himself.

During the last two years M. Renault has called the attention of veterinarians to the development of *Farcy as a consequence of the re-absorption of pus, or of altered lymph* deposited by the lymphatics on the surface of wounds. During the course of this year he observed, and brought under the notice of the pupils, no fewer than seventeen cases of farcy plainly arising from this cause. Farcy cords evidently took their origin from accidental wounds, or from phlegmonous abscesses. In nine of these cases the division of the cord before it arrived at the nearest ganglion, and the giving a ready escape to the pus secreted from the wound, were sufficient to arrest the progress of the disease. M. R., however, admits that such accidents can only be produced in horses whose constitution has been to a certain degree enfeebled.

This professor has continued to practise, and with almost constant success, the extirpation of the ganglions beneath the jaw in horses that had exhibited symptoms of glanders, and when the induration of these ganglions remained after the ceasing of the nasal discharge and the cicatrization of the chancres.

However convinced he may have been that *chronic glanders is not contagious*, M. R. has not ceased to pay all due attention to every thing that may cast the slightest light on the subject; and he is compelled to acknowledge, that all the facts which he has been enabled to collect, have confirmed him in his opinion of the non-contagiousness of this disease.

He is of the same opinion with regard to *the transmissibility of glanders from the horse to the human being*: he does not believe that it ever takes place. He has not seen in the hospitals of the school, since he has had the honour of presiding over them, a single fact which would justify any suspicion of the kind.

Every veterinarian knows that chronic glanders can, under certain circumstances, take on a character of intense acuteness, which may persist until the death of the animal, or disappear after a time, the malady resuming its primitive character. A horse had been, during many months, affected with chronic glanders; but, one morning, the discharge from the nose was perceived to have become more abundant and fluid; it escaped through both nostrils, and had, like the mucous membrane itself, a peculiarly yellow tint. The chancres, few and circum-

scribed on the preceding evening, now occupied almost the whole of the membrane, and particularly that of the septum. The ganglions had tripled their size, and were tender, and a purulent matter was discharged from the eyes. The engorgement of the nasal membrane, and the discharge from the nostril, were so great that the animal could scarcely breathe. This was a fine occasion to experiment on the contagious property of this description of acute glanders, and M. R. availed himself of it. A sound horse was placed on either side of this animal. They remained there during the continuance of these acute symptoms, and which lasted a full month. Every care was taken that they should fairly eat and drink together—their clothes were changed from the one to the other—they were dressed with the same comb and brush; and, indeed, the connexion was so close that, almost every morning, the cheeks of the sound horses were covered with the matter which ran from the nostrils of the diseased one.

One of these horses died of marasmus six weeks afterwards, but without shewing, either while living or when dead, the slightest character of glanders. The other is yet living, and perfectly sound, so far as this disease is concerned.

A great many **RABID DOGS** have been brought to the school during the last year, and have afforded opportunity for new experiments on the contagion of this fearful disease. M. R. collected from the mouth of one of these animals, who exhibited unequivocal symptoms of madness, a certain quantity of saliva, with which he inoculated a horse. He also caused another dog to be bitten by the rabid one. Twenty-seven days afterwards the latter animal became rabid and died; but it was not until the eighty-sixth day after the inoculation that the disease appeared in the horse. Three horses and a dog were inoculated with the saliva of this horse. M. R. will hereafter give an account of the result of this inoculation; but he thinks it proper to state, that in the last year he had inoculated a horse and a dog with the saliva of a rabid mare without the disease being communicated to either of them.

On the 15th of July last a mare was bitten in three or four places by a rabid dog. On the 29th of August, this mare, although otherwise well, seemed to feel a great deal of pain in the bitten leg, and could scarcely rest her weight on it. A series of very remarkable nervous symptoms presented themselves, and were followed in the evening by a strong inclination to bite every thing within her reach. To this succeeded palsy: her fury then gradually ceased; and she is at present in our hospital, unable to raise herself on account of palsy in the hind quarters.

Not a single rabid animal that has been in our hospital dur-

ing the last session exhibited the slightest dread of water; and, after their death, no constant lesion could be discovered, although they were examined with a great deal of care.

Veterinary surgeons of deserved eminence have said, and medical men have generally thought, that PARACENTESIS THORACIS, in cases of hydrothorax, is an operation generally fatal. M. R. has practised it this year on five horses abandoned on account of dropsy in the chest. One of them was near the point of suffocation before the puncture was made. He lived nineteen days afterwards, and underwent the operation four times in this interval. At each time from six to seven and a half pints of fluid were withdrawn; and, on the following day, there always seemed to be nearly as much fluid in the chest as on the preceding one. One of them lived only nine days after the first puncture. He was operated on three times with intervals of two days between each puncture. All these animals died of acute pleurisy, inevitably occasioned by the new irritation produced in the pleura, already the subject of chronic disease, whether by the air, which cannot always be prevented from entering the chest, or by the puncture or rupture of the pleural membrane by the instrument.

It is said, or at least veterinarians know, that PLEURISY in the horse, unless it is the result of some traumatic lesion, is not confined to one side of the chest alone. Both pleural sacs are always inflamed, whether the inflammation is developed simultaneously in both, or whether it is propagated by continuity of tissue from one sac to the other. It is also known that, in most horses, there exist in the posterior mediastinum certain openings, whether natural or accidental, by means of which, in case of effusion in the chest, the fluid passes from one sac to the other. It is on account of these openings that we so rarely have simple hydrothorax in the horse. Nevertheless, this mode of communication does not exist in every case of pleurisy, or, at least, the passage is occasionally obstructed towards the latter periods of the disease. We observed this in three horses that died in our hospital during the last year. Soft and thick false membranes obstructed these openings, and cut off all communication between the two sacs. In one of these cases there was considerable effusion in both sacs, but the liquid stood higher in one than in the other. M. Delafond has spoken of these peculiarities.

TWO CASES OF PARTIAL AND SUPPURATING PLEURISY occurred from the opening of pulmonary vomicae into the pleural sac. In both cases, adhesion between the costal and pulmonary pleurae circumscribed very much the portion of serous membrane which

was in contact with the infectious pus that had escaped from the vomica.

*Inflammation of the arachnoid membrane of the brain* has been observed in several horses. Phlebitis has been almost always the cause of this. Post-mortem examination of some of these horses proved that inflammation of the arachnoid membrane takes on the same morbid characters as that of the pleural serous one, and that the symptoms which are termed vertiginous are rarely observed in this inflammation, and of which they would not be at the time a decisive symptom.

In his anatomical researches into the spinal cord of the horse, M. Renault has been accustomed to direct the attention of the student to a canal in the centre of the cord, and which may be traced, with a little care, from the *calamus scriptorius* to the termination of the lumbar portion of the marrow. This canal, most apparent when examined near to the head, is always filled with a serous fluid, which exudes in minute drops when the spinal cord is pressed upon after an incision has been made through it.

It results from the existence of this canal in the horse (the animal to which alone the researches of the professor have extended for this especial purpose), that the cerebro-spinal nervous centre is bathed exteriorly and interiorly by two distinct fluids. The one inclosed in the meshes of the pia-mater, under the arachnoid membrane, is that which is called the *cephalo rachidian*, or, more properly, the *sub-arachnoïdean fluid*. The other, filling the ventricular cavities of the cerebrum and the cerebellum, and also that in the canal of the spinal marrow, should be distinguished by the name of the *ventricular fluid*. There is one peculiarity which, perhaps, is not without importance,—that the *sub-arachnoïdean fluid*, very abundant around the spinal marrow, is found in an exceedingly small quantity around the cerebrum and cerebellum, while the *ventricular fluid*, the quantity of which is very considerable in the cavities of the brain, is perceived only in the form of exceedingly small drops in the central canal of the spinal marrow.

On opening a glandered horse, that died in consequence of a wound penetrating into the chest, a remarkable lesion of the heart was discovered. *The right auricle*, the volume of which was very much increased, weighed two pounds. It was thickened and *ossified* through nine-tenths of its extent. The fleshy fibres which naturally entered into the structure were compressed and atrophied by the ossiform concretions that were formed in the cellular interfascicular tissue. On the convex surface of the auricle the ossification presented the hardness and the resonance of bone. It was less advanced in the interior

and there exhibited more the appearance and consistence of cartilage. It suddenly ceased at the union of the auricle with the ventricle. It also ceased superiorly, where the venæ cavæ opened into the auricle.

M. Renault has performed, during the last session, a course of operations, or rather of experiments, as to the good or bad effect of certain operations. They are highly important, and reflect on him much credit.

On thirty-two horses, he has practised *castration by simple excision*.

On twenty-three he has performed the operation of *tracheotomy*, in order to compare the advantages and inconveniences of different tubes recommended or used, and particularly to study their effect on the trachea.

On fourteen he has practised *puncture with debridement* of the ureter at its ischiatic curve, in order to judge, 1st, whether it would be preferable to operate for lithotomy in the median or lateral way; 2d, whether the opening of the canal would readily close, and in what time; and, 3d, in case of the misfortune of wounding the bulbous artery, whether the hæmorrhage, abandoned to itself, would prove mortal, or what means can conveniently or possibly be adopted to arrest it.

On six he attempted the most simple modes of docking.

On five he practised œsophagotomy.

In five he tried whether it were possible, in case of *caries of the lateral cartilage* of the os pedis, to remove readily and certainly the carious parts only of the cartilage.

On two he tried whether, in *caries of the conch of the ear*, the operator might be content with removing that part of the ear which projects from the head, instead of taking away the whole of the cartilage of the conch, the dissection of which is tedious and intricate, and exceedingly painful to the animal.

On one horse he made a section with loss of substance of the two plantar nerves in the region of the cannon-bone, in order that the students might be assured, whether, as some had pretended, the division of these nerves would arrest or diminish the secretion of horn.

Independently of these operative experiments, he instituted others with regard to the danger attending certain wounds to which horses are exposed in their ordinary or extraordinary work.

He submitted nineteen horses to experiments on wounds penetrating into the parotid salivary canal, simple or contused, and with or without loss of substance.

On twelve horses he experimented with regard to the means of arresting hæmorrhages resulting from the wounding of the

*jugular* or the *carotid*; and at the same time to ascertain the effect of ligatures on both these vessels. On others he essayed the consequence of wounds penetrating into the abdomen or the chest, on the articulations, or the sheaths of tendons, in order that the pupils might appreciate the seriousness of their character and the modes of treatment.

All these experiments were made in the presence of the pupils; and while they were the means of communicating much practical instruction, they led to the discovery of more than one important truth appertaining to anatomy, physiology, and surgery, and exposed various errors which would be injurious to the patient and disgraceful to the surgeon. M. Renault has promised to favour the public with a detail of these experiments, either through the medium of the French periodicals, or in an especial work on veterinary surgery.

*Rec. de Méd. Vét., Sept. 1837.*

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We now take our leave of our readers until the commencement of another year, sincerely thanking our Correspondents for the many valuable communications with which THE VETERINARIAN has been enriched, and for the kindness and support that we have experienced from the united profession. This has been a proud year for us. Many an enemy was in the field when it began; and the system of warfare that was pursued was unprincipled and reckless. If we had or could have feared, our brethren every where have once more given us assurance, that, while we are faithful to our common cause, the most malignant foe will be powerless. For the seventh time our antagonists have retired from the field, and THE VETERINARIAN remains the only acknowledged "Journal of Veterinary Science," while the whole profession is beginning to unite in one honest and ardent effort to secure the onward progress of our art.

Hoc opus, hoc studium, parvi properemus, et ampli,  
Si corpori volumus, si nobis vivere cari.

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# ANNIVERSARY DINNER OF THE VETERINARY MEDICAL ASSOCIATION,

November 20, 1837.

THE regular business of the first meeting of the session having been transacted, the members of the Association and their friends adjourned to another room, where a sumptuous dinner had been provided by the Council, who officiated as stewards; Professor Sewell, the President of the Association, occupying the chair. The dinner was served in Mr. Cuff's best style, and the wines were fair.

The usual toasts, "The Queen," with the warmest enthusiasm—"The Queen Dowager and Royal Family," and "The Army and Navy," with all their customary honours being drunk, the President proposed "The Veterinary Profession, and the health of Professor Coleman." Of that profession every gentleman present was, or was preparing to become, a member. They highly valued it, or they would not have devoted their lives to the practice of it. It was worthy of their choice—it was intimately connected with the prosperity of the agricultural interests, and those of the country generally. The health of Professor Coleman was naturally connected with this toast. He had long presided over the English veterinary school; he had been identified with its interests and its progress; and to him its welfare and improvement would naturally be dear.

*Professor Coleman.*—If I should fail in returning thanks to you in the manner I could wish, you must attribute it to the long sermon with which I troubled you this morning. I am not, however, so much exhausted as to be insensible to the very kind manner in which my health has been proposed by the worthy President, and received by you. Highly flattered am I that, after being more than forty years the servant and the Professor of the Veterinary College, I should still be so much esteemed by my pupils and by the respected veterinary practitioners now present. The honour which I have received would make any man proud; and I am truly so. I beg leave to return my most grateful thanks for the kindness you have done me, and I wish prosperity and happiness to you all.

After a pause the Professor rose again, and begged to be permitted to propose a toast which, he trusted, would be drunk in bumpers. "The Veterinary Medical Association, and its President:" success to that institution, and success and happiness to my friend Scwell. It would, however, be unjust to him and to you if I did not say more. I have wintered and summered with that gentleman for nearly forty years, and during the whole of this period have had the opportunity of observing his talents, assiduity, and zeal. Other men may have the same qualities, but they do not always succeed; there is something behind which prevents success. His gentlemanly, mild manners, however, have been such, that every one that he comes in contact with he wins; and he has the good wishes and the good opinion of every subscriber. With any other man than him as an ally, I should probably, from certain vexatious causes, have long ago retired from public life. In the discharge of his collegiate duty he is always at his post; and having a certain convenient window from which he can see every subscriber that enters the yard, he is in a moment forthcoming. I, perhaps, have not been in the college-yard so much as I might or ought to have been. He has always been there, and with him alone will many of them have to do. I remember a cer-

tain gentleman came there one day when Mr. Sewell was out. I was in the way. I offered to listen to what this gentleman had to say, and told him that I could, perhaps, give a satisfactory reply. "Very probably, very probably," said the subscriber; "but I had rather see the old gentleman."

This Association, whose anniversary we are met to commemorate—he is the father of it, and we are all very much indebted to him. I trust that he will long live after I have ceased to be Professor. The chair will be filled to his honour and to the credit of the institution.

*Professor Sewell* was thankful for the handsome manner in which Mr. Coleman had proposed his health. He attributed it to old partiality, or to that friendly feeling which must of necessity spring up between men so long and so closely connected with each other. The veterinary profession has been much indebted to Professor Coleman, and on whomsoever his mantle may fall, may he pursue the same course with equal success. Should it fall to his lot to be chosen as the future head of the profession, his would not be a bed of roses. It would be a situation that required the unremitting devotion of every power. The scientific, the zoological duties he would have to discharge, would well employ every moment of his time. To the subscribers he felt more indebted than he could express. He had always been upheld by them in his humble attempts to fulfil the intentions of such an institution. To the pupils he owed a great debt of gratitude: their behaviour to him had ever been attentive and kind; and yet the duty which he had to discharge was occasionally a harsh and painful one. It fell to his lot to have to maintain the discipline of the College: he had endeavoured so to do with as little offence as might be, but he had formed a determination of purpose to maintain that proper governance which the character of the institution and the welfare of the pupil demanded. If he had on one or two occasions been thought by some to have acted somewhat too sternly, he had been supported by the approbation of those whose opinion he valued; and he had at the present moment cordially to thank the pupils, as a body, for the kindness which he experienced from them.

"The Royal College of Physicians," with much acclamation, and, after that, "The Royal College of Surgeons."

*Mr. Wilkinson*, the only surgeon present, returned thanks. He wondered at the absence of those gentlemen of eminent reputation and talent by whom the former meetings of the veterinary surgeons and students used to be honoured. He must attribute it to unavoidable engagements; for he was perfectly assured that they all felt a deep interest in the advancement of veterinary science. His intimacy and connexion with one of the professors, and the pleasure which he felt in witnessing the increasing respectability of the veterinary art, had made him for some years a thankful and a pleased guest at these assemblies; and it was his fervent wish that the Veterinary Medical Association may be upheld, and may triumph as long as it is found to be of essential service to the profession and the public.

"The Veterinary Examining Committee" was then proposed.

*Professor Coleman* was sorry that it fell to the lot of so incompetent an individual as himself to return thanks on behalf of the Veterinary Examining Committee. He would have been happy if Sir Astley Cooper had been there to have discharged this duty: he fully expected to have met him, and he was well assured that circumstances over which he had no control had caused his absence. He knew that the Veterinary Examining Committee had the interests of the institution at heart, and were as anxious for the welfare of the veterinary pupils as for that of their own immediate pupils at their own hospitals. The examination conducted by them is no farce. The students must answer the questions put to them, or they will be rejected. These ques-

tions, however, are fairly put—they are not ambiguous—they are not asked for the purpose of puzzling the poor wight, but in order to ascertain his degree of knowledge, and his capability of discharging the duties of his profession. They are facts with regard to which the candidate is questioned. No student is ever turned back on account of his agreement with or dissent from certain speculative opinions. If he has an authority to produce—if he has been taught a certain theory—if it has been inculcated on him by his teacher—he is suffered to pass, supposing his answers are consistent with anatomical, physiological, and chemical *facts*. They seldom examine on practical subjects—on veterinary practice—but on the anatomy and physiology of the horse. Here they are at home—the slightest error is immediately detected by them; and if they do detect a glaring error, they will immediately reject the candidate.

They have, and Sir Astley Cooper in particular, the utmost detestation of idleness and drunkenness;—he would never forgive the man who was found drunk in the morning. He attained his present fortune and eminence by his industry, and talent, and good conduct.

Some students may have thought that they are pressed upon rather too hardly with regard to chemistry. The examiners go somewhat beyond that which is absolutely essential in veterinary pharmacy, but they say, “you have taken up a profession, and, if you are true to yourselves, you will occupy a station in life in which the knowledge of a gentleman is required of you and therefore we will have you understand the general principles and application of chemical science.

Whether the constitution of the Veterinary Examining Committee may be improved, it is not for me to say; but this I will affirm, that a more honourable set of men than they who constitute that committee does not exist; and that “piece of paper” as it has been called—your diploma—ought to be cherished by you as invaluable. The names which are affixed to it will be your passport to good society and to respectable practice. It will be hung up in your surgery, or in some place in which it will be occasionally seen. It will attract the attention of the medical man. He will read it, and, as he reads, he will say to himself, “Here is one valued friend and teacher of mine—and another—and a third. This man must have some worth about him, or he would not have obtained the attestations of such good men and true, and of so many of them. I may safely make him my associate—I will patronize him as much as I can.” Depend upon it this will be a most valuable document, and closely connected with your future respectability and well doing. Permit me, in the absence of other members of the Examining Committee, to return you their thanks for the honour you have done them in drinking their healths.

*Mr. Field* would have felt considerable diffidence in proposing the toast which he was about to do, were he not assured that he should express the feelings of every gentleman of the present company and of every member of the Veterinary Medical Association. The benefits resulting from an extended system of veterinary education is a subject in the highest degree interesting to every practitioner; and we regard with the deepest gratitude the memory of those agricultural societies and those ornaments of the medical profession who first directed the attention of the government and of the country to the necessity of the establishment of that institution, from which we have derived the groundwork of all our acquirements. The position in which we stand as veterinary practitioners is truly enviable, compared with that occupied by our forefathers.

Under these circumstances—conscious of the high advantages which we have possessed, and connected with a school from which we have derived the

most valuable instruction, scientific and practical, we cannot but regard other schools with a kindly feeling, and an ardent wish that they may enjoy the same benefits. He therefore proposed as a toast, "Prosperity, permanence, and greater extension of beneficial influence to veterinary schools throughout the world."

*Mr. Houssman* returned thanks in the following terms:—Mr. President and Gentlemen, it becomes my duty, being a foreigner and a son of the professor of the Royal Veterinary College of Hanover, to take upon myself to acknowledge the toast just drunk, and I wish a better acquaintance with the English language would enable me to do it greater justice. But, gentlemen, I throw myself upon your liberality, and beg you will excuse any error I may commit.

As the representative of the school of Hanover, I stand up to return thanks for your good wishes towards the whole, and I feel highly gratified and proud for the compliment you have been pleased to pass on us.

Mr. President and Gentlemen, humbly and sincerely, in their names and my own, I thank you for the honour you have done us this evening; and earnestly wish, what I know to be the desire of every right-minded member of the profession, namely, that success and increased prosperity may ever attend the Royal Veterinary College of St. Pancras.

The health of "The veterinary authors to whom the profession has been so much indebted" was now proposed and drunk; after which

*Mr. Morton* rose, and said, it has fallen to the lot of the last and the least in importance of the veterinary authors to acknowledge the compliment just paid to them.

I rise with much diffidence to do so, because I see around me those to whom veterinary science is so much indebted, and who are far more able than myself to do justice to it. On my right is Professor Coleman, whom we are delighted to see amongst us this evening. He could have responded with eloquence; but it would have been unkind to have called upon him, after the exertions of this day. On my left is Mr. Youatt; from him also would you have received a reply with which every veterinary author would have been both pleased and satisfied. I do know, however, that you will soon have from him his sentiments, and therefore I must be content, in the name and on the behalf of the many veterinary writers, to assure you that we feel honoured by your kind remembrance of us. It is true that I am not a member of the profession, but I am bound up with it. I rise with its advancement, and should be disgraced by its fall. Having filled during many years an office at the College, and opportunities having been afforded me, I thought I might contribute something to the general stock. Of this handsome mention has been made by the President, for which I sincerely thank him. My little work is not, perhaps, what it ought and might have been, and possibly many are disappointed; but I will venture to express a hope, that every attempt, however feeble, that leads to another attempt, will be considered a step and an advancement.

*Mr. Youatt* next rose. The toast he was about to propose, he said, was a most serious one, yet in many points of view it would well harmonize with the humorous song that had just been sung. It was a toast which he claimed the privilege of giving. There were others to whose business and bosoms it would come as home as to his own, but there were reasons why he should be permitted to propose that toast. He meant to give "The veterinary students." There were four gentlemen present, who were teachers, who had felt the endearing tie that existed between them and their pupils. It was not precisely the relation between parent and child, but it approximated closely to it. There was—there at least ought to be—no

teacher to whom the interest of every member of his class was not dear—who did not witness with exultation the improvement and the onward progress of his pupil, and who would not perish rather than cross his path. The gentlemen to whom he alluded were still lecturers, and to a certain, and excusable and natural extent, they might hesitate to say all that passed in their minds. He had been a lecturer, but he had arrived at that time of life when he feared longer to hazard the little reputation he might have acquired. "In honour of his age," he had demanded of those with whom he had been connected to "dismiss their veteran soldier off the stage." He had a right to claim from his friends, from the whole of the present assembly, the privilege of proposing "Prosperity to the veterinary student."

He would not tire them with any long and serious admonitions with regard to propriety of conduct in this the most important period of their lives. He would not calculate the proportionate criminality of being drunk in the morning or at night. The time and place were not now fitting for admonitions like these. He would occupy other ground better suited to the joyous feeling to which we naturally abandoned ourselves at such a meeting as this.

They have attached themselves to the veterinary profession—he would tell them that it was a noble profession, and worthy of the exertion of every power to prepare themselves for the practice of it. He would call on them to witness the improvement which had been effected in the knowledge and treatment of the diseases of the horse; and he would entreat them to identify themselves still more with the interests of their country. He would direct their attention to the eight or ten millions of cattle which the United Kingdoms contained—the nearly forty millions of sheep which wandered on our mountains or our plains—and to view the maladies which so wofully prevailed among them, and the sums which were subtracted by their death from the wealth of the empire: and he would ask them whether they could select a nobler object of ambition, than to enable themselves, by and by, to stand in the breach and bid the devastation cease. The rot in sheep, who would not be immortalized if he could discover a cure for it? But his instruction does not reach to these points—at least it does not so effectually. It must, it will soon, and he would win golden opinions from all sorts of men, by whose word, and a word would do it, it was thus extended.

He referred to the gradual, the rapid change which was taking place in the agricultural community. The establishment of societies, and of periodical meetings, in which the interests of the farmer are discussed, and, among other things, inquiry is made how the weal of the farmer as connected with the life and health of his cattle may be better secured. Such societies have long existed in Scotland, and to each of them belongs a veterinary surgeon. He is the recognized officer of the society—he is appealed to, whenever his professional knowledge will be of avail. These societies exist on almost every part of the continent; they are found in France, in Belgium, in Switzerland, in most of the Germanic states. Several of these societies within a certain district amalgamate, and there is an annual, or more frequent meeting, and certain questions are discussed, and prizes are awarded, and, as often as otherwise, a veterinary surgeon is the presiding officer. Why? He is a component part of the agricultural body, and his education and his studies best fit him for presiding over the accomplishment of the general agricultural interest. Is it so among us? These societies are fast embodying themselves. There are nearly a hundred of them. But has each its veterinary surgical body? No! He has not yet been recognized as a portion of the agriculture: his education has not been carried on with that view. Here, then, is a fine field for you. Improve the few advan-

tages which you have. Prepare yourselves as well as you can for this identification with the agriculture of the country; and the time is not distant when a more extended system of education will be granted to the veterinary student. I will not say that it will be forced from the powers that be. It should be freely and honourably given.

Once more, gentlemen, when you go into the world and mingle with its society, the associate that you will choose will be the human surgeon. I do not say that you will ever stand on a level with him—*post medicinam ars veterinaria* I frankly acknowledge—our patients are different, and our remuneration is different: but I will say that, *post medicinam* comes the art which you profess, and in many, many important points of view, you will not only proceed with your medical friend, *cum passibus æquis*, but there will be points in which he will yield, and after a while cheerfully yield, to you. Many of the most important points of physiology have been determined, or supposed to have been determined, by living dissections. To accomplish the purpose of one modern author the lives of 600 quadrupeds were sacrificed. While we read we loathe. Living dissections might have been, I will grant that they were, necessary in some cases; but in others are they to be depended upon when we know the ease with which not only by extremity of torture, but by any powerful stimulant, even by the power of imagination, the most important functions of the frame may be altered, suspended, or inverted? Yours will be a life of pathological and physiological investigation. Animals of almost every class will occasionally be brought before you. You will, with a view to that polar star of physiological investigation, the beautiful, the unerring adaptation of the various parts of every being to the state in which he is placed, and the objects which he is to accomplish—you will witness the healthy discharge of every function, and you will trace the deviation from that healthy discharge of function, and its nature, and its extent, and its cause. It is not a few admissible or barbarous experiments that will teach you this—you must live among the various classes of beings in order to know them as they are. I once, in a meeting of our profession, got myself into a sad scrape: I said, that notwithstanding the many valuable treatises extant on physiology, it must, at last, be a veterinary surgeon who would work out and complete all. I was told that I had made an impudent speech—that I had given great offence. Perhaps I was not sorry to be told so, for I could see whose withers were not unwrung. I repeat it again, advisedly and with conviction, he alone who has the opportunities which a veterinary surgeon possesses, can fairly and perfectly work out an unexceptionable treatise on physiology.

Gentlemen, such are the prospects of the veterinary surgeon if he chooses to avail himself of them; and to a very considerable extent you may prepare for this consummation devoutly to be wished.

I said that I would not speak to-night of good or bad conduct, yet I must for one moment, for diligence and high estimation of your profession are essential to the accomplishment of all this.

If you are often found

Where sit involv'd and lost in curling clouds of Indian fume,  
And guzzling deep—the farrier, lackey, and the groom,

you will never accomplish this object, and you will be traitors to the cause which you profess to espouse.

Mr. Chairman, I beg leave to propose the health of “The Veterinary Students,” and may they fulfil the expectations of, and thus best reward, their natural parents, and those to whom the conducting of them in the paths of science has been entrusted.

*Mr. Kingsley* returned thanks in nearly the following words :—

Mr. President and Gentlemen, a duty has devolved upon me to return thanks for the Health of the Veterinary Pupils; and although there are very many amongst the number far more efficient to do that justice to the toast which it merits than myself, I must say, that, however inadequate I feel upon the occasion, not one is more willing. I beg, therefore, to observe, that for the very high compliment that has been paid us by our highly talented friend Mr. Youatt, I sincerely thank him; and reflecting upon the respectable source from whence the toast has emanated, and the general eclat with which it has been received and responded to by the highest respectability and talent in the profession, I must say, that this is an epoch in the life of the veterinary pupil of which he ought ever to feel most proud. To our highly-talented Professors, who have contributed so much to the advancement of veterinary science, and to whose instruction we are so greatly indebted for our information, I beg sincerely to offer thanks for this mark of favour, trusting that our conduct as pupils will ever merit their approbation; and that when we pass from their cognizance, we may reflect credit upon them and the Institution from which we have derived so much benefit. There is a gentleman connected with the College to whom the veterinary pupil is considerably indebted for the general interest he manifests in their behalf; as also for the production of a work which must ever prove of great utility to them, and reflect very great credit upon him as an author,—that gentleman is Mr. Morton. I trust that I have said all that is necessary respecting those gentlemen immediately connected with the Institution; but were I to close this address without mentioning another without the walls of the College, I should consider myself guilty of very great neglect, and not doing him that justice which his high talents command. To him I consider we are very much indebted, not only for his exceedingly valuable instruction, but also for the general interest that he takes in every thing that is calculated to advance the respectability of the profession; the gentleman to whom I allude is Mr. Spooner (*general and enthusiastic cheers*); therefore while we have our talented professors within the College, and Mr. Spooner (our able instructor) without, I think that, with strict application and attention, we have nothing to fear. I beg to thank you for your kind indulgence to me, and conclude by wishing you every success, and prosperity to the Association that we are this day assembled to commemorate.

*Mr. Simonds.*—The toast which I have to propose is one to which you will all respond with heartfelt pleasure. It is the health of “The Council.” I could have wished that it had been in abler hands, for I am unable to do justice to these gentlemen, who merit our warmest thanks for the very efficient services which they have rendered to this Association. They are to us what in the legislature the representatives are to the people—the defenders of our rights, our liberties, and our freedom of speech. Without any farther preface, and the toast is too good to require one, I call upon you to pledge with me a bumper to their health and happiness, thanking them for the excellent and efficient manner in which they have discharged the duties of their office.

*The President* shortly returned thanks :—It might be supposed that considerable labour would devolve on the council of the first session, and that they would have a difficult path to tread. They had, however, been animated by one feeling,—a sense of the importance of the Association, and a determination to establish it beyond the reach of accident or malignity. They had fully succeeded in their object; and they could now with pleasure and with triumph return into the ranks of their brethren.

*The President* now proposed the Health of the Treasurer of the Institution, Mr. Spooner. He had well and worthily preserved the monies with which he had been entrusted, and rendered a due and faithful account of them. By his frequent attendance at the meetings of the Society he had materially contributed to their pleasure and value; and in his own theatre, where his worth was duly estimated, he was labouring to prepare the students for the discharge of the duties of their profession.

*Mr. Spooner* returned thanks:—Mr. Chairman and Gentlemen, for the high honour you have conferred upon me in drinking my health, I feel no difficulty or diffidence in returning you my most sincere and heartfelt thanks; but to do so in language sufficiently impressive to convey to you the real sentiments of my mind, is, indeed, a task to which I am unequal. When I reflect upon the source whence it has emanated, and the enthusiastic response of every member of this joyous meeting, my soul teems with grateful acknowledgments too acute for the expressive agency of my lips to give them due utterance.

As Treasurer of the Veterinary Medical Association, and one of the members of the council, I might have expected my health, in common with my colleagues, to have been drunk in due form; but I suspect, Gentlemen, you will not accuse me of egotism when I say, that on this occasion I am convinced you have waved all form, and that your acclamations have been accompanied with a correspondent sincerity of feeling which, though conscious of undeserving, believe me, I duly appreciate.

Gentlemen: this indeed, to me, is an evening of rejoicing; for, on looking around me, I find that this meeting consists, with one exception, of members of our own profession. It is, then, truly a Veterinary Anniversary Dinner, where mere empty forms and cold unmeaning ceremony can find no place to interrupt its harmony. We are united in one common cause. We are here met to commemorate the founding of a Veterinary Association, which has for its object the enhancement of the respectability and the general advancement of our art; and when I say that our funds are ample, our library extensive, and our members numerous, I think I can offer no better proof of the success which has attended the labours of the past session.

Believe me, Gentlemen, I feel that the high encomium of our Chairman, and your kind approbation, have placed me in a position to which I had no right to aspire; for, although as a humble teacher of veterinary anatomy and physiology I have ever had the advancement and welfare of our profession uppermost in my heart, it must be borne in mind, that my endeavours have been more particularly confined to the carrying out of those principles which have been previously inculcated by eminent men who have gone before me, many of whom I have now the honour of seeing, both on my right hand and on my left. The study of anatomy is a noble pursuit, but if confined to one subject merely, as is too frequently the case in the human schools, the field for physiological deduction is necessarily limited, and the sublimity of the science much curtailed. I am firmly of opinion that the man who confines his observations to the structural arrangements of one animal only, whatever may be the position of the link which such may form in the great chain of animate beings, is unworthy of the name of an anatomist. I would, therefore, strongly recommend the veterinary pupil to avail himself of the opportunities which are afforded to him, by ardently applying himself to the study of the anatomy of all domestic animals; and it will go hard with him if he does not occupy a position even higher than the one allotted to him by my friend, Mr. Youatt; and instead of, as he observes,

being second to the human practitioner, he may be considered as a separate branch of the same body. I again thank you for the honour you have been pleased to confer upon me.

*The President* said that there was another gentleman whom they would be guilty of the greatest ingratitude if they passed over in silence—he alluded to their worthy Secretary. The members of the society were little aware how much they owed to the indefatigable exertions of Mr. Morton. A very great proportion of the regulations of the Association emanated from him—they were all worked out by him—and many an hour was stolen from repose in order to give them full effect. He need not say as a chemical teacher how much he contributed to the improvement of the pupils, nor how highly he was estimated by them. He would propose his health, and he was sure that every heart would respond.

*Mr. Morton* thus replied :—The immortal Shakespeare has said,

“Thanks

To noble minds is honorable meed.”

And, Mr. Chairman and Gentlemen, from my heart and from my soul I sincerely thank you for the very handsome manner with which my health has been proposed and received.

I should, indeed, be justly chargeable with the darkest of all crimes, ingratitude, did I not express myself as strongly and as warmly as the power of language enabled me. I have received from you this night that of which I may be justly proud; and I trust it will have this effect—it will increase my efforts to merit a continuation of your approbation.

While the plaudits were being given I was thinking what I had done to merit them, or the part that I had enacted; and I could not help comparing myself to the hands on a dial-plate. They are extremely useful, it must be allowed, yet to them no thanks are due, for of themselves they are passive. It is the machinery within that moves them forward, and thus to tell the passing hour. Had I not received the support I have from those I see around me, and many more, the honours would not have been conferred on me which have been this evening; nor could I have been instrumental in the formation of the Association whose birth-day (as it has been felicitously expressed) we are met to celebrate.

It is now ten years since the idea first suggested itself to my mind, that the union of veterinary surgeons and students would be desirable and attended with the best results to veterinary science. Influenced by this impression, I ventured to address a circular to the profession, having for its motto that which is now the Association's, for I felt convinced that “power by union becomes stronger.” To make use, however, of a familiar phrase, “It did not take.” In the year 1836 was formed the Veterinary Medical Association. The causes which immediately led to its formation I will not dwell upon. Suffice it to say, that if aught was intended for evil, it has been productive of good. We now stand strong in our strength! Is it nothing, I would ask, that in one short year we should enumerate nearly two hundred members? and among them are to be found almost all that is great and liberal in the two professions by which the veterinary art has been advantaged. Is it nothing, that in the same short space of time we should have a library of above 400 volumes, and have been enabled to return, with our best thanks, those books which were so kindly lent to us by friends at the commencement? These are some of our fruits. The published proceedings of the Association will shew you more; and that we are progressing, let the transactions of this evening, and the names of candidates for membership that I have had the gratification of announcing, furnish you with proofs.

Hitherto, we have been content with collecting the treasure which has lain

scattered over the surface of the soil ; but now we begin to find that greater riches lie hidden, deeply buried. For these, united in our labours, we are content patiently to persevere, nothing doubting, but that each succeeding year will bring with it fresh rewards.

The veterinary profession is properly placed as second only to the human ; but if the latter be not careful, the former will be treading on its heels. This province, however, is not mine ; and lest I should be carried away by my feelings, and become chargeable with unwarrantable enthusiasm, I will conclude, by again and again thanking you for your kindness, and wishing perpetuity to this anniversary meeting.

*Mr. Spooner* then addressed the President as follows:—On rising to propose to you the next toast, I feel conscious of my inefficiency, and could have wished that it had fallen to the lot of one more competent than myself to do justice to it ; yet I am inspired with a confidence of its being received by you with acclamations, which, in a great measure, relieves me of the embarrassment under which I should otherwise labour ; and I feel assured that I have only to mention the name of Mr. Youatt, in connexion with *THE VETERINARIAN*, to at once excite your applause. You all know him to possess great talent and persevering industry ; and when we reflect, that for many a year he has unweariedly exercised them for the benefit of the veterinary profession, we must necessarily feel proud and happy in his association. The works which have emanated from him redound to his credit, and will render his name dear to the profession long after he has been removed from us, and far distant may that time be. His heart is in the profession—his life is unweariedly devoted to the promotion of its interests. I see here some of the members of the Veterinary Club. He has, I believe, filled the office of Honorary Secretary to that club since its foundation, with credit to himself and satisfaction to them (hear ! hear ! from Messrs. Field and King) ; and they have lately proved this to him in a way honourable to themselves and most gratifying to him. Were I to speak of him as a social friend, I could say much ; but, gentlemen, it will be more in accordance with the present meeting for me to direct your notice to Mr. Youatt as one of the Vice-presidents of the Association, and as the Editor of *THE VETERINARIAN*, the only established monthly journal of veterinary science—a publication of extensive circulation, and a depository of veterinary knowledge, which forms a most useful volume of reference in the library both of the student and the practitioner. In this journal, at the expense of much labour on the part of Mr. Youatt, a monthly report has been given of the proceedings of our Association, and which, I think, has been mainly instrumental in assuring the successful progress of our Association : for by it the knowledge of our meetings, and of the importance of our proceedings, has been extended through every part of the country. As a member of the council, Mr. Youatt has been unremitting in his attendance ; and I have reason to know sometimes even at the risk of health, when labouring under painful affliction : ought we not, then, to feel proud that such a man is in every sense of the word with us and among us ? I will conclude by proposing the health of “Mr. Youatt, and the success of *THE VETERINARIAN*.”

*Mr. Youatt* again addressed the meeting nearly as follows:—Mr. Chairman and Gentlemen, I should belie my own feelings—I should be unjust to you, if I did not say, that this is one of the proudest and happiest days of my life. At the first anniversary of such an association—one that will be an ornament and a blessing to our profession—to be thus distinguished, I did not expect. I owe much to the kindness—the partial kindness of my friend, Mr. Spooner, for such, I believe I can call him in the truest sense of the word—I owe still more to the good fortune of having my name and

feeble labours coupled with so noble an object as that of the present meeting.

I have been spoken of as editor of *THE VETERINARIAN*. I must be permitted to say, with my friend Mr. Spooner, that it has become a most useful volume of reference,—it contains a fund of invaluable information. I say this freely and proudly, for I am only one, and a humble contributor to that fund. One object of this periodical—the diffusion of useful knowledge—has been gloriously accomplished; and in my own name, and that of hundreds of its readers, I tender my warmest thanks to the contributors to its pages. With the diffusion of useful knowledge is inseparably connected the improvement of our art, and its increased character and acceptance. I can proudly say, that this has never been lost sight of in *THE VETERINARIAN*. The plan for the conduct of that work, laid down in the early part of the first volume, has never been essentially departed from. I challenge contradiction here. It is this—forgive my egotism; I will not intrude long on you—it is this which has enabled *THE VETERINARIAN* to repel all its enemies. Malignity and falsehood—systematic duplicity and deadly hatred, have again and again mustered in formidable array against it; but it lives, in the language of my friend, “the only established journal of veterinary science;” and it will live—foe after foe will oppose it in vain—it will live—until it deserts its principles, and then it will fall, and deservedly so. As to other works, more properly mine, they must be left to their fate. The present generation, and future ones, will decide on them, and they will decide truly; but while even the eloquence of my friend could not establish in public estimation that which is unworthy of it, calumny, hatred, and the ridiculous and malignant affectation of forgetfulness, will not injure the meanest of my labours.

My name has been coupled with this noble Association, the anniversary of which we are commemorating. It was a chance that this Association had not been strangled in its birth. If certain gentlemen, whom I have in my mind's eye, had not, all attentive to your interests, read the signs of the times, and seized the critical moment, you would not have been sheltered within the walls of the Veterinary College. Thanks to those who were provident and determined, the Association was formed and located where your interests demanded that it should be. I have nothing to claim here, sir, but that of which no one can deprive me,—the consciousness of labouring with others more effective but not more zealous than myself in forming an association whose object, whose regulations, whose meetings, hitherto are most honourable and most intimately connected with the welfare and onward progress of our profession. I shall not live to see it, but if the members of this society are but faithful to themselves and to their noble cause—if they make one sacred vow to crush accidental or wilful dissension in its very bud, the Veterinary Medical Association will ultimately rival in utility and in honourable acceptance the highest and the best institutions of the kind which our country contains. Mr. President and Gentlemen, I humbly thank you.

*Mr. Spooner* proposed the healths of those to whom certificates of merit had been awarded. They were the first-fruits of this noble enterprize, and we might draw from them the happiest presages. Was it not a noble thing that in this first anniversary, not only were so many certificates of merit awarded, and honourably earned, but we are enabled to offer prizes—and he trusted annual prizes—prizes increasing in number and in value, and for which every member of the profession might compete? This was, indeed, beginning already to realize the beautiful presages to which they had

listened that night. The hour, however, was getting late, and he would content himself with announcing the toast with which he had commenced.

*Mr. Snewing*.—Having been solicited to acknowledge the honour conferred upon my successful brothers and myself, by the warm reception you have given to the toast proposed from the chair, I accede to the request with pleasure, but with diffidence—diffident from my inabilities, and a conviction of superior capacities and mental endowments, rendering others far more able than myself to do justice to it; also, from the little claim I can have to that honour which has been awarded by so influential and discerning a body as that comprised in our Council on the occasion.

Yet the allurements which are held forth for further investigation and elucidation, I trust will inspire and exert their influence—co-equal—on us, that have gained the climax of our utmost wishes; and, on those who, being actuated by the same motives, may conduce to that *wel* which ever holds out its fostering hand to those deserving of its protection.

I hope we shall ever pursue that course of conduct which will merit to us the approbation of the wise, the friendship of our brothers, and the esteem of the community at large.

*The President* now announced, and he did so reluctantly, that the hour of departure had arrived. He confessed that he had never spent a happier day. The meeting could not, however, separate without tendering their warmest thanks to the Stewards, to whom they were indebted for the arrangements, and, connected with them, much of the comfort of the day. He proposed “The Health of the Stewards.”

*Mr. Dawber* replied:—I rise with much pleasure to acknowledge the compliment which you have just paid my brother stewards and myself. I do so the more readily, because, from the manner in which you have received the toast from the chair, you have given proof of satisfaction. If in any measure we have been instrumental in contributing to the happiness of this evening, our desires have been realized. Our task was certainly not onerous, and we performed it the more pleasantly, because we knew the urbanity of those whom it was both our duty and our desire to endeavour to please. Our present wish is, that each succeeding year will bring a return of this anniversary; nor do we for a moment doubt but that stewards, even more active and zealous than we have been, will be glad to take our places when they know with what kindness their endeavours are met, and the honours which are conferred upon them.

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